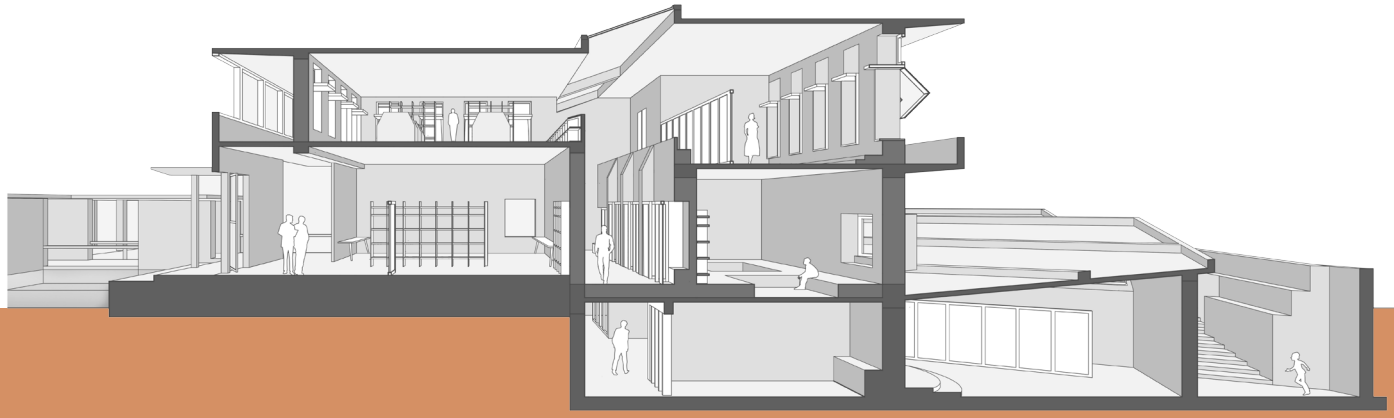
USM's
Kamla Raheja Vidyanidhi Institute for Architecture & Environmental Studies

K R V I A



Course Structure Compilation

B. Arch

2019-20

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USM's
Kamla Raheja Vidyanidhi Institute for
Architecture & Environmental Studies

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The KRVIA

Our Vision and Mission

"The KRVIA vision dwells on the imagination that the institute shall be an important knowledge centre for research in architecture & urbanism. Stemming from this imagination, the architectural inquiry seeks for embedded conditions through a multi-disciplinary platform. As a result, KRVIA, through the years, has witnessed the rise of multi-disciplinary faculties who have gained expertise by enriching their knowledge of the subject. The naïve contextual urbanism of the earlier stage that was seen as a manifestation of architecture with an urban inquiry is now expanding into questions of urban realm where the sphere of architecture constantly finds itself negotiating with newer emerging urban forces".

The most important projects that the institute undertook in this phase were several international consortium and research projects. The formation of the post-graduate program is an outcome of all these endeavours. The discourse on architecture began to create a significant bridge between profession and discipline. The discipline discourse on architecture and urbanism are envisioned around four fundamental domains i.e. knowledge domain, practice domain, critical domain, and regional domain.

Manoj Parmar
Director, KRVIA

In order to embark on the future of an Institute, it becomes paramount to scan through the trajectory of an institute and its formative circumstances. The long evolution of KRVIA has witnessed a systematic shift of pedagogy over a period of twenty-eight years. The emerging pedagogy is finely grained in its long-term philosophical foundation laid by the founding director. This is perhaps the time to trace the history of pedagogic trajectories and move with regards to the larger rationale towards an emergence of a new academic paradigm.

KRVIA was the product of a liberal economic policy in education. During its formative years, the founder director set the tone of the institute's pedagogy. The formative circumstances of KRVIA had to deal with the existing dogmatic structure of evaluation-based academics, undermining the enabling and engaging-based academics. The founding director enabled the process with fresh ideological questions on Indian Aesthetics. The teaching methods revolved around the question of representation and aesthetics. The architecture emerged as an assemblage of various forces that were assumed to be Indian. This phase also founded the various theoretical discourses around global architectural theories and its relevance in the Indian context. The emergence of inter-disciplinary understanding, the Encounter lecture series and the annual journal (Reflections) are important milestones that have formed KRVIA as an important centre for architectural learning.

The second phase witnessed the shift of aesthetic-based pedagogy to context-based inquiry. Architecture was seen as a product of contextual expression and object of naïve urbanism. The architecture was seen as an artifact of the urban place. KRVIA also witnessed the de-centralization of academics with respect to the academic decision-making process. This phase enabled the consolidation of subject expertise and concentration of discipline inquiry.

The third phase took the urban agenda forward where the architectural inquiry constantly sought for embedded conditions through a multi-disciplinary approach. The rise of multi-disciplinary faculty has enriched individuals with subject expertise. The naïve contextual urbanism is now seen as a manifestation of the urban realm where the sphere of Architecture constantly found itself negotiating with urban forces. The most important project that the institute took under in this phase were several international consortium and research projects. The formation of the post-graduate program is an outcome of all these endeavours. The discourse on architecture began to create a significant bridge between profession and discipline.

The discipline discourse on architecture and urbanism were staged around four fundamental domains i.e. knowledge domain, practice domain, critical domain and regional domain. The naïve contextual-ism paved the way for a regionalism discourse.

However, standing at current positions, one may raise fundamental questions which are apparent and necessary, simultaneously because the pedagogic structure must address the unfolding reality and emergence of new paradigms and technology.

These questions are:
Does the multi-disciplinary approach paralyze the question of design and aesthetics?
Is the urban question on architecture, claustrophobic?
Is the sphere of architecture reducing? Is it a global phenomenon?
How is it relevant to India?

The KRVIA vision for the coming years is embedded in the above stated questions. Hence it is necessary to imagine the pedagogic structure on this existing foundation and yet be forward and outward looking. The trans-disciplinary narrative perhaps can re-configure the existing edifice and the critical regional question becomes a force to reckon with, that would encompass the conceptual framework drawn with diverse forces. The future of architectural pedagogy is at the hands of individuals with newly cultivated knowledge anticipating manifestation at various scales. It is a stage where pedagogy needs to climb the ladder of epistemological understanding through various disciplines and build a conceptual framework for architectural learning (trans-disciplinary learning). The epistemic understanding through a trans-disciplinary mode allows fresh inquiry into the role of architecture, architectural and urban questions.

Changing times and new learning methods have challenged the existing methods of teaching, learning and time. Perhaps it is time for a change in spatial infrastructure and its physical manifestation. As a result, education methods and modes are changing dramatically, with the distinctive rise of e-learning, wherein teaching is undertaken remotely and on digital platforms. These changes that have come about now are here to stay for a while and we have to see it as an opportunity and also as range of alternatives. However, it is important to upgrade architectural learning with resources in the form of physical and spatial means. The existing infrastructure at KRVIA is equipped to sustain an equitable & inclusive, enabling & sustaining a physical as well as e-learning ecosystem.

KRVIA Academic Trajectory

Knowledge Domain | Critical Domain | Practice Domain | Region Domain

Critical

History + Architectural Theory

Architecture discourse of Social and Cultural imperatives

Architecture Speculation on Past, Present & Future

Liberal Arts

Architectural Narration in Art, Literature and Philosophy

Representation

Studios + Thesis

Narration of Architectural Question and Brief

Study Tour

Place, People Geography

Visual Studies + Applied Studies

Study of Patterns, Principles, drawings

Study of systems Materiality and Situating

Research

Epistemology

Structure of Knowledge. Context, Meaning and Insight

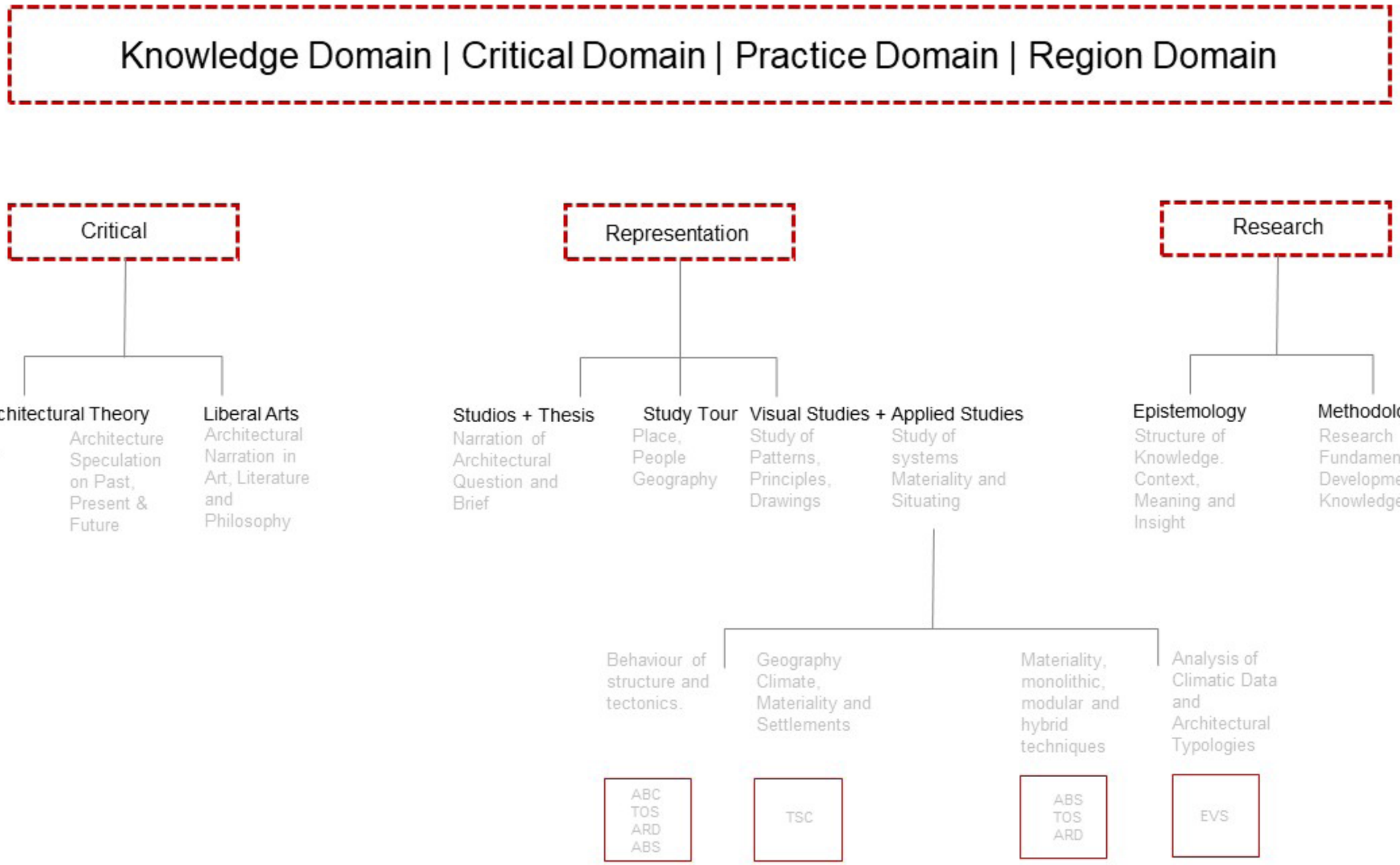
Methodology

Research Fundamental & Development of Knowledge

B.Arch

The Bachelors in Architecture Program

The B.Arch Program at the KRVIA



B.Arch

Vision Statement

The intention of the B.Arch course in architecture at the KRVIA is to create professionals who are able to participate proactively in the processes of improving our built environment. It places the act of Architecture within the larger domain of the production of space. Architecture therefore is seen not merely a skill that is imbibed by a student to apply in the world outside, but is rather is a way of positioning ones role in the world, and the provision of tools and skills to participate in transforming the built environment. Thus, rather than creating individuals that can uncritically engage with the forces of transformation that we see around us, the school helps students through tools of critical thinking to consider the profession and its role it plays in the world, and make choices for their own practice accordingly.

1. The Here and the Now

An important factor of the way in which the course is designed is its attempt to place it in the '**here**' and the '**now**', the spatial context and the time that we inhabit. However, we also realise that the '**here and now**' do not lie as isolated events. The '**here**' itself can be found at different scales from the molecular to the global and is interconnected to other spaces through economic and sociopolitical vectors; while the '**now**' emerges within narratives of history and is always embedded with imaginations of possible futures. Acts of Architecture give shape to these desires.

Attention to the '**here**' and '**now**' also allows us to concentrate on redefining some of the presumptions of mainstream architectural thought. It allows us to rethink given historical narratives, value systems and canonical examples.

2. The Myth of the Mind / Body Binary

Another important aspect that has been central to the way that we have tried to evolve the course has been to move beyond the imagined binary between the **mind** and the **body**. The act of design is one where this imagined separation is problematised. One cannot merely work within the abstract space of the imagination, as acts of design perform their role as concrete facts in the world. The opposite is also not true, as every act of making in the world is embedded and affected by the world of ideas, economies and social systems. Instead of imagining them as separate from one another, the attempt has been to think about them in a dialectical relationship with one another. We have tried to evolve a course where a student is asked to perform the role of an architect. These performances problematise the traditional binary between the mind and body. Our minds and bodies work in collusion with each other. As the act of architecture is a performance in the world, this act is rehearsed in the space of the studio through repetitive meditations and elaborations on the themes that concern the spatial environment and acts of making, as in the *riyaaz* of traditional and music and dance forms.

3. The Agency of the Learner

At the KRVIA we believe that architecture is a vast area of study, and within it we should all be able to find our own place. The course has to be able to allow students to discover that place for themselves. The course is designed to enable a student is able to find her own trajectory, her own voice. This is done by consciously allowing a student to script her own trajectory of learning within the larger parameters given by the Council of Architecture and the Mumbai University. There is an attempt at different levels to catalyse the agency of the learner and provide her with a scaffolding, a support structure within which she can evolve her own position as a professional within the discipline.

Proposition concerning knowledge

The Academic Space is not only a space for the consumption or the dissemination of knowledge but is a space that is also involved in creating it.

It has been seen that the architecture school when it is framed merely as a space to produce professionals for the market, is not seen as a space capable of creating knowledge, as often the knowledge that is produced might challenge some of the primary tenets upon which the architectural discipline is built. Research may lead to new value systems and new histories that might allow for radically new ways of thinking about the profession. As a result spaces for research within the Architectural school are limited and even when they exist, are usually framed within primarily utililitaritian frameworks. This limits the scope of the questions that architecture can raise, and consequently limits the role that it can play in transforming the built environment. The space of research therefore should an essential part of any academic institution. This space does not need to be separated from the space of teaching. Students and faculty can evolve means of pedagogy that can embed within the learners too an attitude of exploratory and experimental thinking that can lead to novel ways of intervening within the world.

Proposition concerning responsibility

The academic space, to be relevant, has to break the boundary between itself and the world outside.

The relationship between the space within the academy and the world outside is a hotly debated one. While the world within the walls of the school as often seen as a space for 'thinking out of the box', the world outside is framed the 'real' world. This is a self defeating binary, not allowing one to affect the other. While the academic space can indulge itself in fantasy and speculation without a responsibility to the world outside, the world outside can shrug and put aside any kind of idealism as utopian daydreaming, and allow itself an uncritical engagement with forces of transformation. It is important therefore that this binary be destabilised. The boundary between the school the world must become porous. Ideas must permeate through in both directions, challenging each to reconsider its own position. It only through this kind of permeability that we can evolve an architecture course that can stay relevant to the changing times.

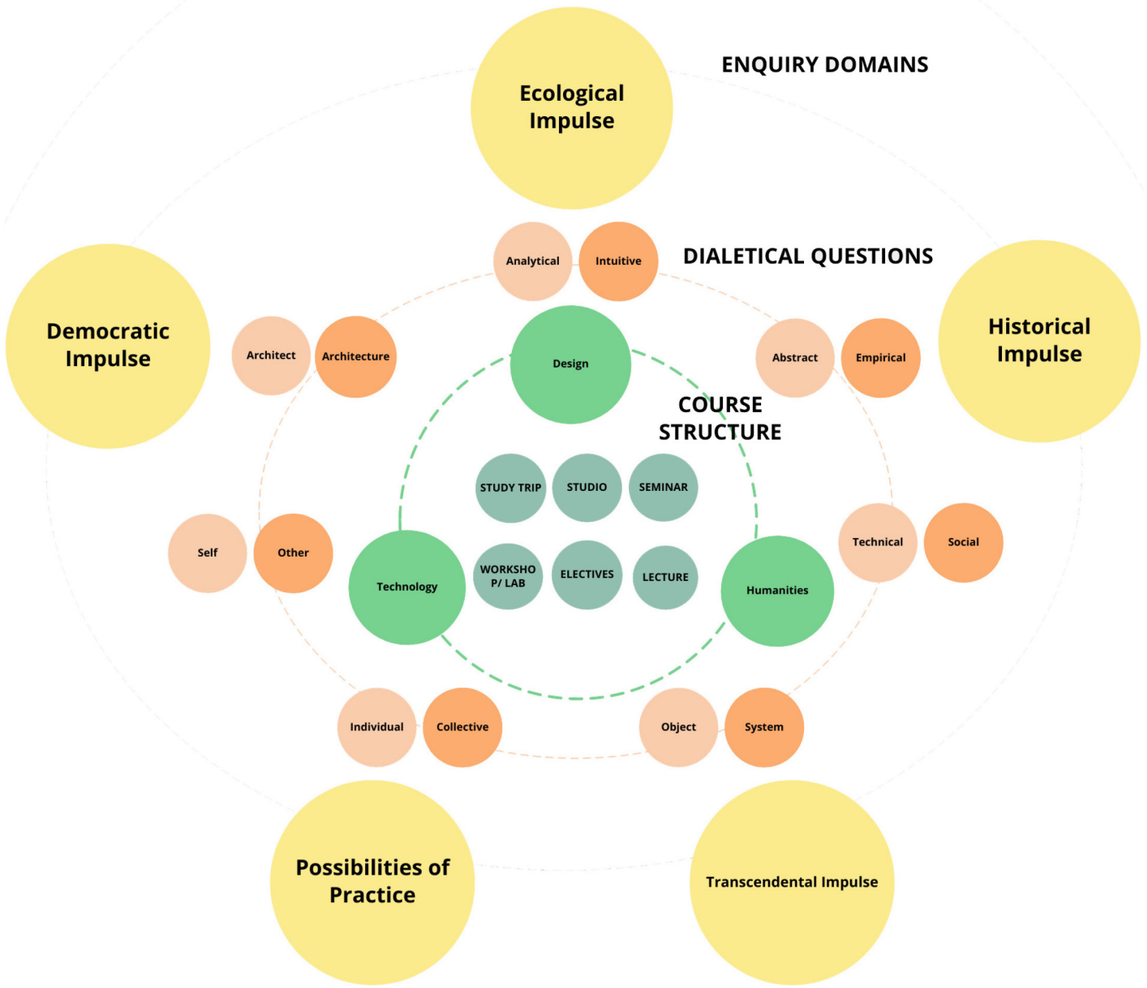
Proposition concerning the discipline

We live in extraordinary times, where the world is at one level closely interconnected by new technologies, and at the same time made of isolated islands that are increasingly fragmenting our identities. As our cities grow rapidly, we face new challenges everyday, environmentally and socially. As the profession mandated to care for our spatial environment we have to be able to address these transformations. However, too often we find that the disciplinary boundary within which we work, or the expertise we claim are not capable of dealign with these transformations. It is important therefore for us to be open to collaborations with other disciplines. We can learn new ways of seeing and mapping, even new modes of intervening in the world through these collaborations.

What follows in the text below are some of the ways in which we have structured the course of the Bachelors of Architecture at the KRVIA. We start off with some of the primary pedagogic concerns that we face today as practitioners. These concerns recurring in different ways across different course through the years. Following that are some of the modes of en query in the form of dialectical concerns that serve as a field within which the student makes choices across the arc of learning. This is then followed by the components within the structure of the course and the Arc of Learning across 5 years.

Program Intent

Domains of Enquiry



One of the main questions when framing a course on Architecture is to examine the state of the profession as it exists today. This would help us understand what the concerns of contemporary practice are. This would require the courses to constantly find ways of engaging with the transforming landscape around by consciously reflecting on the relevance of the conceptual ideas within the academy to the 'here' and 'now'.

Given here are five broader impulses that seem to be shaping the value systems of the discipline. These impulses become trajectories along which we begin to 'act' through the making of a building, or in any other way that is deemed fit. These are merely frameworks of seeing and do not in any way restrict an action within only one or two of these categories. In fact, many of the greatest architectural interventions will transgress these categories entirely. Different courses find ways of examining these in the way that they structure the course, the case examples chosen as well as in the pedagogic processes involved.

The Democratic Impulse

This is the urge of architecture to participate in the processes of making a fairer world. With its ability to affect the ways in which relationships between people and resources are structured, architecture can be a powerful tool towards making the world more equal and free. It can distribute resources sensibly and fairly, create opportunities for growth and fulfilment that are just and equitable. This is the impulse through which we care for each other through the ways in which we imagine space and form.

The Ecological Impulse

Here we are concerned with the relationship that architecture makes as an interface between the 'human' and the 'natural'. Seen as antithetical to each other, this can lead to 'nature' being imagined as something that can be used and/or misused. This is a relationship that seems to be at the heart of much architectural discourse today with 'green', 'sustainability' and 'resilience' as part of almost every single conversation. However, these conversations can sometimes devolve into glib one-liners. It is imperative to examine this intertwined relationship- to be able to evolve frameworks through which we are able to read and calibrate it, away from given presumptions.

The Historical Impulse

This concerns our relationship with history, the way we make relationships with the past, and the future through our actions. Thus this is not merely about ancestry, it is also about legacy. If indeed as Reiser and Umemoto suggest in their 'Atlas of Novel Tectonics' that every work of architecture writes its own history, what history do we choose to write, why and how?

The Transcendental Impulse

Architecture is integral to culture. It is a representation of our knowledge, experience, beliefs, values, attitudes, meanings, hierarchies, notions of time and conceptions of the universe. As culture, it is both our prosaic needs and our urge for transcendence. In beauty we find the possibilities of this transcendence, through our bodies and our minds, in esoteric abstractions, sensual experience and in our dreams. Through architecture we can laugh, speak, cry, wink, love…. The transcendental impulse is interested in the possibilities that lie here.

The Possibilities of Practice

If we have to indeed reclaim the mandate of architecture, (i.e. to be able to, through spatial interventions, affect change towards 'betterment) perhaps we also need to examine what constitutes practice, what are the presumptions upon which the discipline is built, what is the structure of the profession and how does it shape its training and validate institutions. Are there blind spots within that do not allow it to effectively affect change? Are there possibilities of new kinds of agency that we can claim new ways of seeing and representing, along with new kinds of practice that are necessary.

ARCHITECT

THE SELF

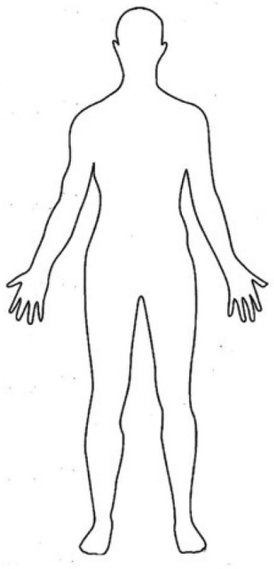
THE INDIVIDUAL

THE OBJECT

THE ABSTRACT

THE TECHNICAL

THE ANALYTICAL



ARCHITECTURE

THE OTHER

THE COLLECTIVE

THE SYSTEM

THE EXPERIENTIAL

THE SOCIO-POLITICAL

THE INTUITIVE

Program Objectives

Modes of Enquiry

All over the country we are witness to some unprecedented changes in the way that cities, small towns and villages are transforming. These include the redevelopment of historic cores to make way for real estate speculation, the exploitation and destruction of the environmental systems and rapidly expanding limits of the human inhabitation destroying the hinterland.

Architects and architecture are deeply implicated in this process. Many architects choose to participate wholeheartedly in these processes in spite of the ethical and moral issues. They rationalise their roles as merely service providers facilitating the shaping of forces beyond their control. Another tendency is to shun all responsibility for the shaping of the built environment and take refuge in aesthetic pleasures that merely are palliatives softening the impact of the more destructive forces that are actually at hand.

similar situation is mirrored within architecture schools, as they try to cater to the needs of the market. Rather than a space that can provide for critical reflection and thought concerning the built environment they can sometimes become producers of a labour force for the forces that are currently ravaging the environment
If architects have to be able to meaningfully engage with these forces to affect change for public good, it is essential that the education of an architect must equip them with the methods and tools to be able to do so.

At the KRVIA we are attempting to evolve a course that begins with an examination of the 'here' and the 'now'. The attempt is to be able to critique deeply ingrained presumptions about role, value and process from the place that we inhabit, in the city of Mumbai and South Asia with its unique history and particular economic and socio-cultural issues.

We believe that the space of the academy should be a space to question and critique existing systems of spatial production to allow for new and inventive ways of intervening as architects. Through the questions raised within this space, we can allow students to make choices about who and what they want to be as architects through a process of critical thinking. It is important therefore to create a space that can encourage a student to discuss and debate the appropriate response to a situation and then respond to it. Given below are 7 dialectical questions which can be explored. As 'dialectical' questions they propose a binary relationship between terms. Each of these terms is placed at two poles creating a field of tension between, and it is this field that the students are placed, allowing them to explore their positions and possible responses. It is hoped that the design of the course would enable this kind of enquiry.

Question 1
Discipline/ Profession

The act of making architecture is located within the larger domain of the production of space. As mentioned earlier the KRVIA believes that the academic space is not only a space for the consumption or the dissemination of knowledge but is a space that is also involved in creating it. We intend to create professionals who are able to participate proactively in the processes of improving our built environment. Architectural thinking is therefore not merely a skill that is imbibed by a student to apply in the world outside, but is rather is a way of positioning ones role in the world, and discovering processes and modes of practice to participate in improving the built environment. These skills allow a student to be agile yet centred. They can approach the rapidly transforming environment and the varying spatial conditions that they are asked to engage with proactively. Thus, rather than creating individuals that can uncritically engage with the forces of transformation that we see around us, the school helps students to develop critical thinking tools to consider the role of the architectural profession with respect to the wider world of the architectural discipline. This will enable to students to find appropriate modes of engaging with the wider world based on their own subjectivities, their value systems and proclivities, and individual skills.

Question 2
Analytical / Intuitive

Often the studio space is seen as a place to think 'out of the box'. This, privileges the idea of the creative individual free from responsibilities to the world- as if to think creatively one needs to disengage with analytical thought. This classic dichotomy between the rational and the poetic, between the left-brain and the right-brain has to be dismantled. These binaries are rhetorical in nature and are used to dismiss and discard the other point of view in arguments- but are not true as experiences of the world. It serves little purpose when architecture has to deal with both. Such thinking not only relegates the poetic to individual expressionism- and therefore without inherent logic- or rules and grammar; but also simultaneously says that order or clarity has no beauty- or ability to inspire. Thus creative thought is relegated to being exciting but irresponsible, while analytical thought is seen as necessary but tedious and boring.

A similar separation can be seen in student communities. Students who do well in the 'creative' design subjects are often seen as superior to those who do well in the more technical subjects. As a result often students do not engage with the technologies creatively, or vice versa. As teachers we have to be able to allow students to engage with both. Within the school processes can be designed that allow students to engage with the contexts through frameworks that bridge the perceived gap between the analytical and the intuitive. These will greatly enrich the learning of a student and allow for a deeper understanding of the architectural process.

Question 3
Abstract / Concrete

One of the most important skills of an architect is the ability to read space through abstract frameworks. These abstract frameworks allow her to perceive space in a unique way and enables her to organise it in different ways. The drawing, for example, is the classic tool of abstraction of reality that an architect works with. This tool allows her to map relationships in space, and create representations that shape the lives of people. Often however, these abstractions overcome the specificities of the context that the architect is engaged with. Entranced by the patterns of these abstractions, their apparent efficiency and beauty, architects foist these upon realities that are substantially different. Examples of this abound. The idea of the 'modern' is merely one example. Unable to read our own history of modernity we have adopted narratives from the western world and have tried to adjust our own history with that one- and have naturally failed. Even when we have tried to evolve our own narrative of an "Indian" identity it has fallen prey to the abstractions inherent in constructing a myth of a national unity, given that we live in so many different geographies, histories, languages and cultures across the country.

As a result of this, among many architects there has also been a complete dismissal of abstract processes, by claiming to return to a pre-industrial mode of architectural production enmeshed in everyday experience. What are often called 'barefoot' architects repudiate the abstraction inherent in architectural thought and claim to grow architecture from a deep engagement with the context. This immersion in the empirical realities would, it is presumed lead to a more nuanced understanding of the context. The world of desire and of imagination that can emerge only out of a certain abstraction of the real are denied presence. Architecture here is seen as merely the built manifestation of current social and economic forces and is not seen as having the ability to change anything. As a discipline that has the responsibility of working towards a greater common good, retreats into the abstract can be seen as escapist while the complete denial of the importance of abstract thinking can also be self-defeating. Instead, within the studio space a dialectic between the empirical and the abstract could be created. This would allow students to form frameworks to help read the patterns and relationships that exist in space. These patterns would be informed and shaped by the material facts that they encounter and therefore be more relevant and well informed.

Question 4
Self/ Other

Most architecture students today come from the urban middle classes of the country. Over the past 20 years this class has been the target and the beneficiary of many of the advantages of the liberalised economy. This has also led to a very particular way in which the experience of the world of the students has been shaped that often does not allow them to engage directly with what they see around them. Without any experience of the world, they are instead trapped in received senses of identity, of right and wrong, and tend to accept those value systems as the norm. As a result they are resistant to different ways of seeing that might challenge these preconceived notions. This could be ascribed due to the false sense of security that the highly mediated and image saturated culture creates; or due to the limited exposure that they have to other ways of living and seeing the world- whether that is in the school education system, the media or their daily experience of the world.

As architects, however, this sense of self-confidence can be rather limiting. It does not allow for a student to learn from the differences that one encounters as a practitioner. It forces a practitioner to superimpose a received set of values systems on communities with different histories and value systems. It is essential that in the education of an architect the smug sense of security within him, her or them be challenged. It is only through exposing the students to different ways of living, and value systems that contradict their own, that they would be able to cast a critical eye at the things they otherwise take for granted. These may often be disturbing at times for students who have been sheltered in a protective shell until then, but it is this very shell that stops the student from growing as an individual. It is thus important that they students be asked through the pedagogic process to engage with empathy with cultures outside their comfort zone- to encounter the 'other'. This can be achieved through cross cultural studies, exchange programmes and study trips- that are more than fleeting traipses through foreign lands- but are engaged more deeply in a context so that meaningful conversations concerning differences and similarities may emerge.

Question 5
Individual/ Collective

One of the inescapable legacies of high modernism in architecture has been the 'hero myth' or what can be called the 'Howard Roark' syndrome based on the mythical hero-architect of Ayn Rand's novel 'The Fountainhead'. This image of an architect as an independent, expressive individual, whose vision and talent keep him soaring above society has marked and marred architectural practice. This swagger

and machismo have often created an essentially confrontationist approach of the 'creative' designer- against people, against history, against nature- all of whom are marked as "effeminate" in some way or another. Not only does this allow for a markedly violent and self-indulgent mode for architectural practice, one can also see the frustration apparent in many students when they step out into the world when faced with the inability to 'make their mark' in a profession so completely based on team work. Not only does the hero architect suffer much frustration when his/her/ their "vision" is not realised, but so does the world in general when it is.

The space of the academy as it is currently imagined furthers this myth. Individualism is much vaunted and appreciated, while many of the best students complain about the burden of group work because it hampers their own creativity. This antagonistic relationship between the ego and the collective must be consciously reconfigured in the studio space. Rather than the collective being seen as a burden that needs to be carried, or a hurdle that must be surpassed in the shaping of Architecture, forms of collective creativity can be experimented with. The idea is not to dismantle completely the individual's identity, but to place it in relationship with the collective, so that it can then be problematised and reconfigured. This can change the way that the architect measures her success and the mode of practice entirely.

Question 6
Technical/ Social

Another legacy of the education system that we have adopted is the highly technocratic nature of the syllabus that results from a faith in the scientific method. Architecture is seen as the science of building, and as a science is seen as subject to universal laws that can be applied regardless of context. The whole hearted adoption of so many of our policies and laws shaping the built environment stand testimony to this. With a dry rationalism that denied anything that could not be quantified and classified, it reduced the idea of architecture to that of the minimum standard- an architecture whose byword was efficiency. To implement this was a process of highly centralised control and a convoluted bureaucratic system that reduced the variety of particularities into generic codes that could be applied uniformly across the country.

This imagination of architecture continues to haunt the studio space- the rational as beautiful, and the violent dismissal of the idiosyncratic as dangerous. The area statement, the bubble diagram, logical structure and organisation, the faith in the plan as the generator and elevations being dismissed as merely decorative.

As a result the syllabus often relegates subjects such as history and the humanities to the margins and centralises the technical subjects. Even here the technologies are seen as context-less generic solutions that can be applied anywhere. We do not have ways of seeing technology itself as a cultural, social and an economic factor. As a result, our tools of reading and understanding society, who we build for- are insufficient, partial and inadequate.

Yet, there are many frameworks in other disciplines that may allow us insights into these systems. Methods of understanding and representation from sociology, economics, film, etc. can inform and educate us about the relationship between the built and the processes that it is enmeshed in. Interdisciplinary frameworks within the studio space can open out the architectural object to new ways of reading and intervention. If the horizons of architecture have to be opened out- these methods are the key and have to be essential to the way in which we run a studio or make a course.

Question 7
Object/ System

Another legacy of high modernism has been the fetishisation of the architectural object as a unique marker of the architect's personality. This object then becomes the commodity that represents the architect in the market of practice. This often distances the architectural profession from some of the concerns that it can have- as it ends up becoming merely a 'signature' style dressing up often fundamentally flawed projects.

Even if you leave aside the fact that this object obsession leads to many incredibly irresponsible buildings- socially, economically, environmentally, as they are often are reduced to mere images- not addressing the non-visual / spatial aspects of the building.

There is also a classic dichotomy in so many discourses around architecture. One begins from the object and in the process of elaboration forgets the forces through which the object has evolved. The other privileges the cultural and economic processes through which the architecture evolves and claims that form is merely a result of those. While the former discourse is unable to perceive the systems through which form emerges (an 'autonomy' of form); the latter by claiming form to be merely a product of other forces does not acknowledge form-making as also a process capable of making a change.

But these two discourses cannot so easily be separated. One lies embedded within the other. Can there really be the production of architectural form outside the world of economy and culture? The space of the academy should consciously concentrate on unpacking the processes within which the built form exists. However, the relationship between the forces of production and the resultant form is not so easy to decipher. It is far from an easy linear relationship. As architects, we have not been equipped with the tools to read these forces and tend often to make cause-effect assumptions that are often naive and simplistic. It is important to use the studio space to engage with the context and to evolve tools of reading, representation, analysis, craft and intervention that might illuminate these relationships.

Question 8
Architect/ Architecture

It is seen that the traditional imagination of the role an architect is to play has to be expanded to be able to address the transforming physical landscape. With distances collapsing between places around the world and information flowing freely across borders; along with the simultaneous collapse of the walls between disciplines, ideas concerning design, along with processes of building are changing radically. While on the one hand super-specialisations are emerging, architects are also being asked to rethink their traditional domain and cross-disciplinary work is becoming the way of the future as projects become larger and more complex. Meanwhile smaller firms are also struggling to cope with the rapidly changing landscape multi-tasking and playing many roles to get the project realised. Few of these skills have been seen as traditionally within the scope of an architect's profession and are often not addressed in architectural education.

We have also observed that architects manage to affect a minuscule fraction of the actual building in the country. Within the villages and towns of the country, buildings are being built with no contribution from the profession of architecture; and self-built slums proliferate in the cities. There is no way for the architecture profession as it is currently imagined to engage with these forces.

We suggest that if architecture is to be made more effective as a force shaping our cities, there is an urgent need to rethink what we conventionally call architecture. So far it has been imagined as the unique creation of a single individual which can fit in easily into the assembly line of producing buildings within the capitalist mode of production. As has been observed this imagination, although not obsolete, addresses only a minuscule amount of the built production of the country. With the transformation of what we call the domain of architecture, new modes of practice can emerge that allow for a deeper and committed engagement with the shaping of the built environment. In that sense a new role for the 'architect' emerges.

The space of the Academy can allow for students to explore this relationship - between the nature of production and the form of practice necessary. Issues concerning the city today need to be studied and the student can don a role best suited to intervene within it- whether that be of an activist, designer, manager or facilitator.

The PO's

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.

2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)

3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete)

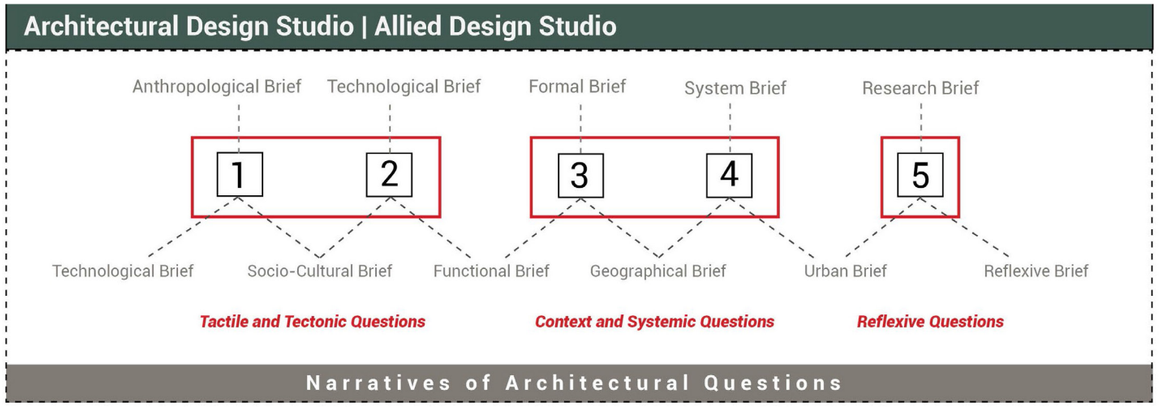
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

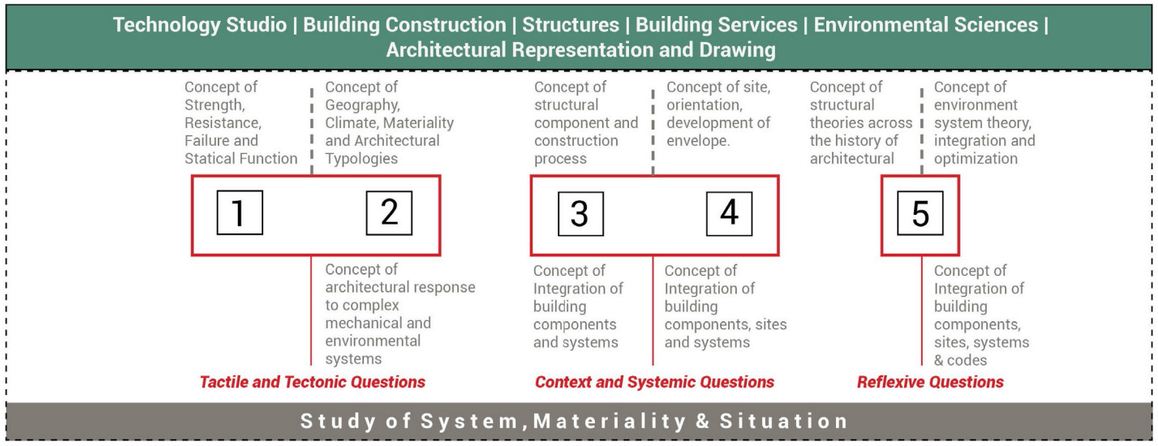
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)

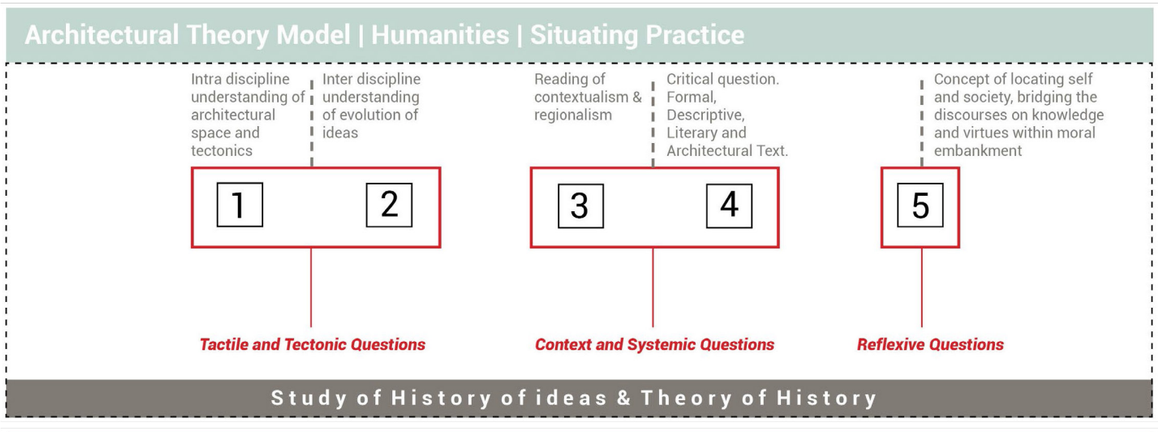
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)

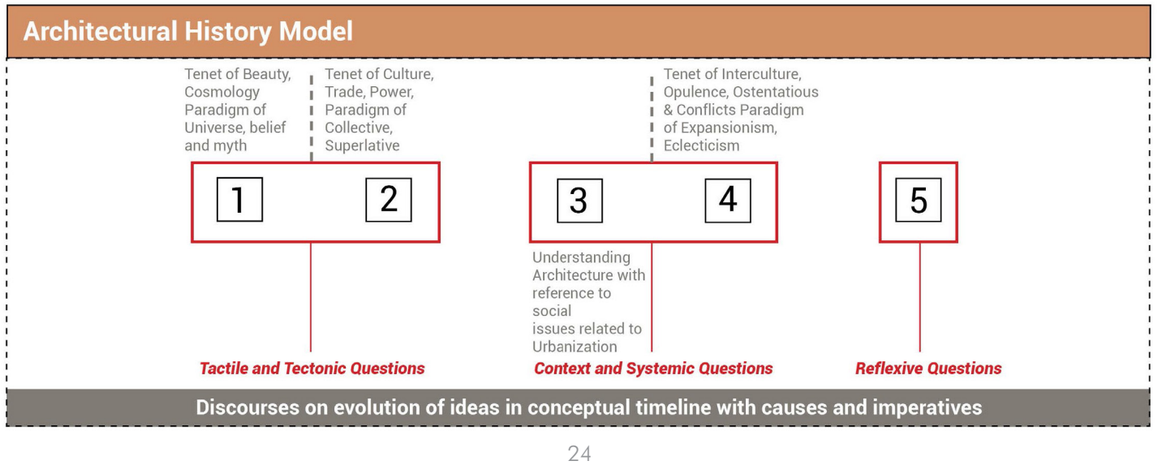
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)

8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture).









Courses

Course Components and Structure

The Studio - Design

While the course content itself is divided across three interlinked streams- Design Studios, Technology Courses and Humanities Courses, the main components of the structure of the course typically take the form of three kinds of delivery mechanisms - the Studio, Lecture, Seminar Courses and Electives; While the latter three are imagined to be places where specialised knowledge is gained by the student, the former is meant to be the place where the student demonstrates proficiency in the "Act of Design". There is also a Study Trip programme that runs through four years of the school. Given below are short descriptions of the pedagogic role of each component.
Studio Spaces

The act of design is an act of performance. The studio can be seen as the space where the performance is rehearsed through the design of specific actions that the learner is asked to engage with. One of the main determinants for the course is to imagine the act of design as one that conjoins analytical and abstract thinking along with an action. As mentioned earlier, too often these are seen in their own individualised compartments. It perhaps is more useful to imagine the two in a dialectical relationship within which the students through performing the act of design explores the space between. It is this perpetual and continuous meditation and exploration of the relationship or riyaaz through which the act of design is embedded in the learner. What this implies is that every studio exercise concerns both the act of conceptualisation and the act of resolution. The parameters that are set for each studio can be pitched based on the position of the learner, the levels of expectation can also be understood based on the position within the learning arc that the learner occupies. However, the act of design has to be seen as one that is not a mere determinant of an abstraction devoid of the real.

The Studio - Technology

In the Technology Studios there is an attempt to create a variety of different modes of engagement of the learner with the subject matter. They include:

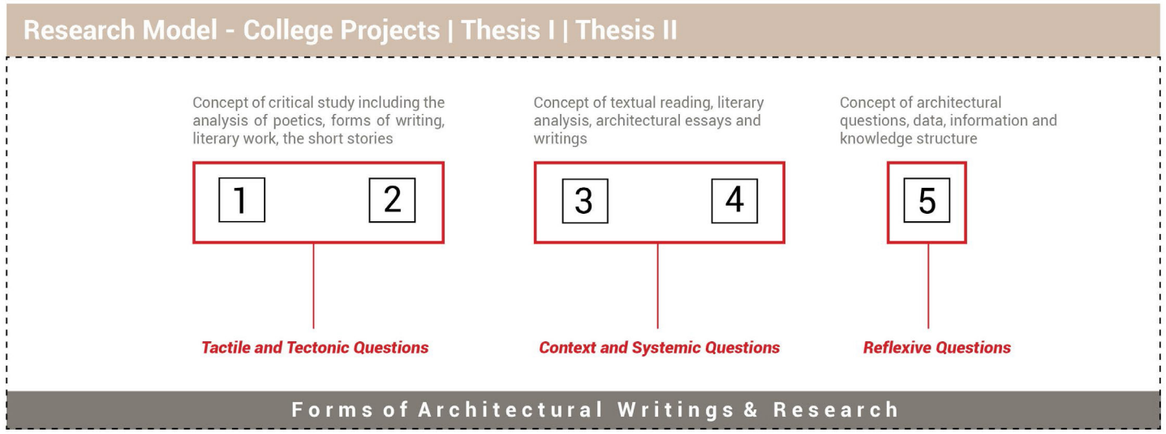
- **Conceptual Modes**: where students acquire an understanding of fundamental concepts of building sciences.
- **Analytical Modes:** where students are able to develop analytical processes for the evolution of design either individually or through consultation with specialists depending on the scale of complexity.
- **Intuitive Modes:** Where students develop intuitive understandings of various building systems and proportionate sizes of components and are able to visualise their concepts as material objects subjected to natural forces, usage and constructional possibilities.
- **Tactile (Hands-on) Modes:** which inculcate a practice of doing "hands-on" wherever the opportunity is available and develop empathy towards craft and craftsmanship.
- **Collaborative Modes:** which value collaboration across disciplines and stakeholders and are able to communicate effectively.
- **Representational Modes:** to develop and represent a technically sound and graphically effective proposal.
- **References:** which refer to appropriate resources (historical examples, case studies, standards, technical literature, guidelines, handbooks, codes, etc.) as required while arriving at solutions to the design problems.
- **Innovative Modes:** where students are asked to arrive upon unique solutions for the particular problems that they are faced with through a combination of many of the above processes, or in the absence of suitable standards and case examples, they are able to conceptualise building and site systems and custom design details befitting their core idea.

The History, Humanities and Theory Courses

These courses serve to create a background of knowledge within which the act of design takes place. They expose the students to new concepts, ways of thinking, specialised skills that can contribute to the overall development of the student. They need not dovetail smoothly with the studio space at all times. They can be spaces that support or challenge some of the presumptions of the studio. They largely follow three intersecting trajectories across five years:

1. Architectural Theory

The course intends to inculcate a habit of reflexivity, to



open out the critical/dialectical relationship between knowing and doing. The theory of design course will frame architecture as an expanded cultural practice, that engages and borrows from ideas across disciplines. It will frame the act of architecture as a reflexive critical practice and theory as critical and propositional endeavour. It is the place for meditation, discussion and debate about language concerning architecture- visual, spatial, verbal as well as written. The attempt is to create a space for conversation about the dialectical relationships between the idea of 'architecture'- a disciplinary question concerned with what the domain of architecture is, what its identity is, and what its responsibilities and ethical role is; and that of the 'self' of the 'architect' - a philosophical / psychological question that is concerned with what the particular skills of this profession are, what it's role is and how does this person place herself in the world.

It aims to engender in students a capacity to think conceptually to enable new ideas and approaches to emerge. The course will expose students to works of art, literature, architecture and ideas through history, to engender an agility of thinking conceptually across and through traditional disciplinary boundaries. Within the course there is an attempt to challenge the idea that practice and thought are separable - that there can be theory that has no concrete relevance; or that there can be practice that exists outside of thought. The attempt is to allow students to explore the relationship between thought and practice in cultural works, but through the particularity of the here and now. Unlike the history course- it will use a comparative and conceptual framework rather than a strictly historical one.

2. History Courses

The History of Architecture course at the KRVIA primarily attempts to enable the student to ingest notions of one's own cultural identity. The attempt is to understand history not as a sequence of haphazard events but one that is made by people in the satisfaction of their daily needs. The course goes beyond the taxonomic method of categorising and describing the physical aspects of the historical object to include the purpose of its making.

While history is traditionally presented as a collection of facts and events that have transpired across time and place, it is pertinent to equip students on existing information and knowledge around these interpretations of facts. The emphasis therefore is on the understanding, analysis and relevance of this information in contemporary times, which will help them in gauging the society and context in which they live and operate.

The objective of the course is to bridge the distance between history as a construction of cultural identities and history as a material expression of the built object. The course adopts the modes of production as a chronological system to discuss the ideas that lead to a production of architecture. History is thus, seen and discussed as an understanding of processes - an intersection of belief, technology and social structure.

Four stages - the agrarian, the mercantile, the industrial and the service economies are considered, to place the study of the history of architecture across five years at the KRVIA. It is imagined that the first three years will place themselves within the agrarian, mercantile and industrial economies. Parallel to the history course the Theory of Design course of the second, third and fourth years explores the history of modernity and architecture up to contemporary times.

The History of Architecture course in the first three years corresponds to the larger pedagogic structure of theory and design learning – the Spatial, Conceptual, and Critical aspects. These aspects are mobilized through various spectrums of thoughts and particularly the simultaneous geographical section. The attempt will be to dissect architectural history through various spectrums of thoughts and responses.

3. Humanities Courses

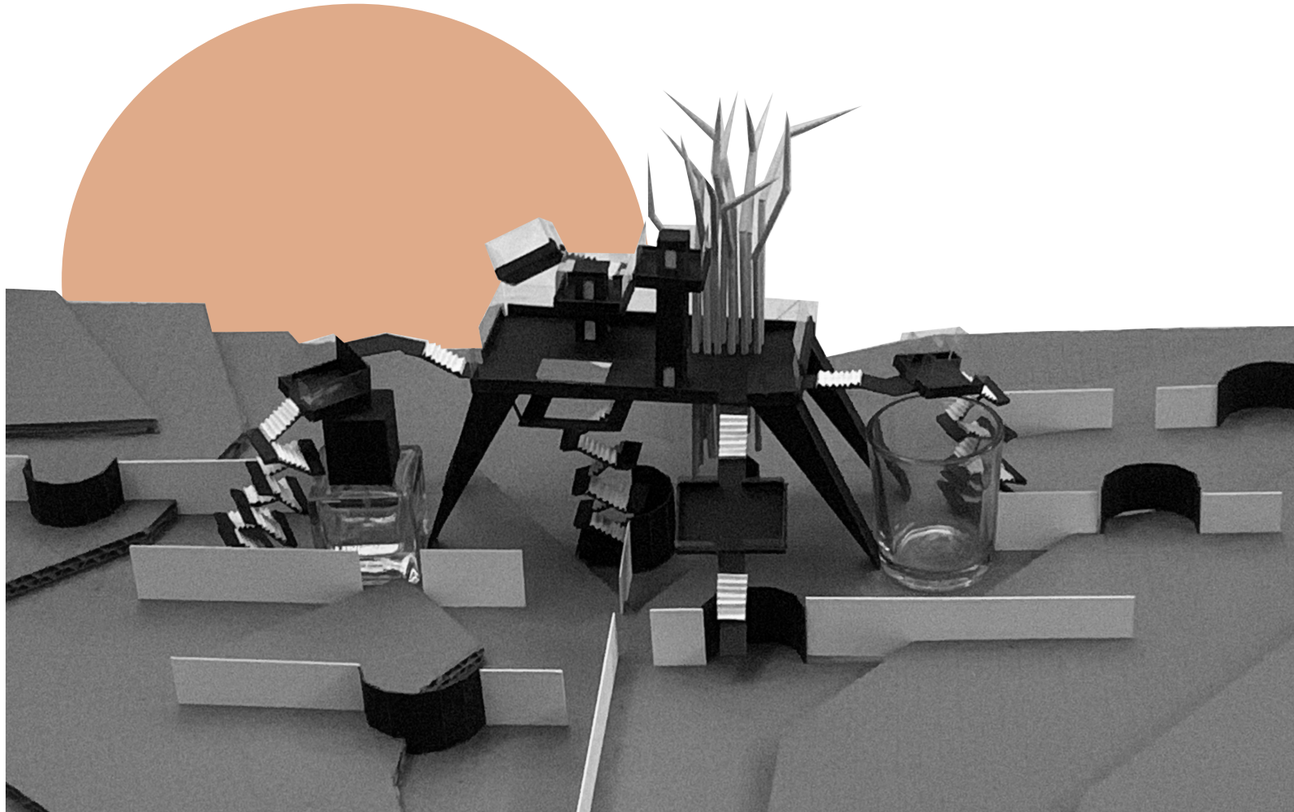
The humanities course aims to establish the criteria to evaluate architecture for what it does, and to test the profession's claim to validity in public culture. Architecture is understood broadly, as the built landscape - not simply as significant works by significant architects. These courses will encourage students to investigate the built landscape through the social relations of spatial production.

Elective Courses

These are spaces for the faculty and the students to explore new areas of interest. These can also allow the students to see the role of architecture within a broader cultural context. They can take the form of trans-disciplinary explorations, specialisations or parallel interests that can enrich the understanding of the student.

The Study Trips

Parallel to the three streams mentioned above is a Study Trip Programme where students are taken to different contexts and asked to engage with them through the act of observation, analysis and representation. These are essential spaces for students to learn about other realities within the country, and also allow the school to discover and create knowledge about the varying histories and contemporary realities of different places within the country. These study trips provide an essential space for explorations in architectural ideas that take different forms from the first year to the senior years.

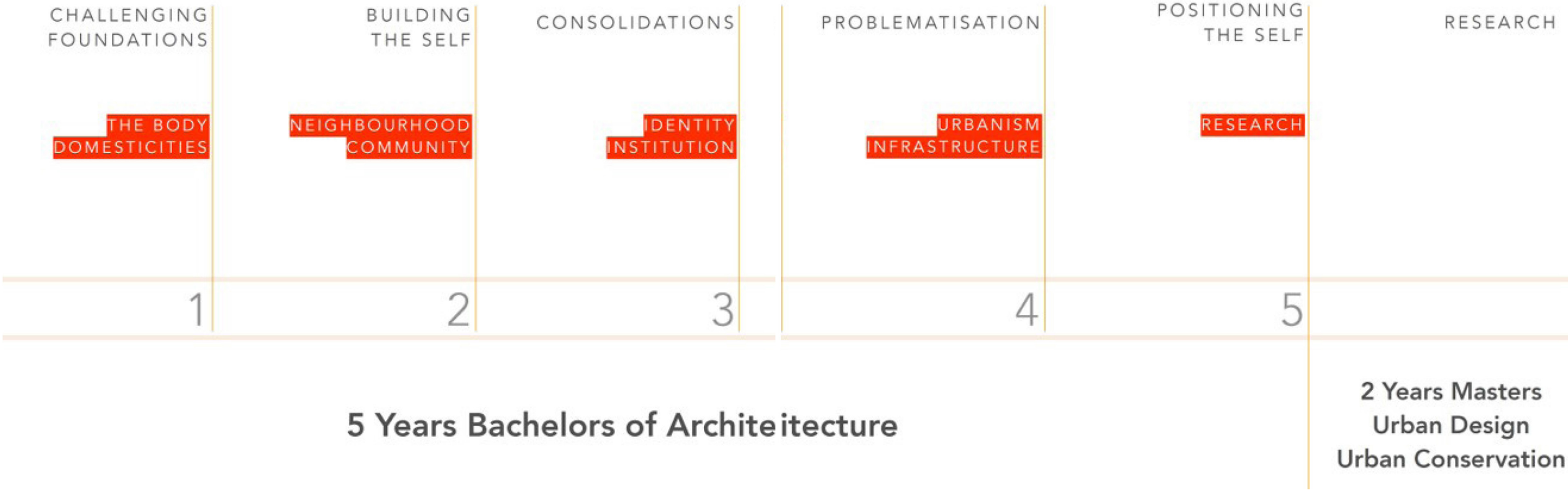


Other co-curricular spaces

Besides the core academic courses mentioned above at the KRVIA there is also an attempt to make many co-curricular spaces for blurring the boundary between the city and academy, along with interdisciplinary and trans-disciplinary explorations. They include the Exchange Programmes, The Research Cell, Weekly Encounters. The Kamla Raheja Memorial Lecture Series, the Publication Cell, etc. These are spaces whose concerns feed into the Academic space.

The Arc of Learning

In this section we shall try and attempt to trace out the overall role of each of the five years of the course in the role that they could play in the overall development of the learner.



Program Specific Outcome

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).

2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.

3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.

4. To engage the student in enquiry through hands-on work.

5. To enable the student to script one's own project

6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.

7. To enable the student to extract and the abstract from the experiential and center it as the basis of design

8. To enable the student to break the boundary between abstract thought and material realities

9. To enable students to discover multiple methods and tools to develop their own process of learning

10. To engage the student in collective work to build a sense of shared responsibility.

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First Year

Program Specific Objectives

1. To enable the student to extract and comprehend the abstract from the concrete or from what they see and know of the world around them.

2. To explore mediums and methods of communication of both non-conventional as well as technical means of abstract ideas.

3. To centre the body as means of enquiry of the world around that collects, re-looks and re-imagines information.

4. To instill a sense of empathy towards the collective and its multiplicity.

5. Employing hands-on work at both individual and collective levels as means of enquiry, evaluation and expression.

6. To enable the student to script one's own project.

7. To enable the student to break the boundary between abstract thought and material realities

8. To enable students to discover multiple methods and tools to develop their own process of learning to allow them to explore who they are as an architect.

First Year

Pedagogic Intent

Primary Dialectical Questions: Self - Other / Analytical - Intuitive / Individual - Collective / Abstract -Empirical

The First year is perhaps the most important and delicate of the five-year course. Students come from a variety o different backgrounds to become architects. They bring with them presumptions and value systems that are often accepted by them uncritically. As young adults they are also on the threshold of finding out who they can become as adults. The students also come from a system of education that emphasises rote learning with clear and determinate deliverables. Along with that is the expectation of what architecture is meant to be shaped by what they see around them, or more often nowadays, as told to them by the preparatory classes for entry into architecture school. There is a need at this point to challenge most of these presumptions. For the student to open herself out to the possibility of indeterminacy, scale and scope of architectural education, it becomes extremely important to provoke students to reconsider the making of the Self, allowing students to see their own subjectivity as a result of circumstances, while at the same time enabling them with the ambition and desire to transform themselves- to perform as architects.

There are two other important methods that are deployed at the first-year level. The first concerns handson work. This allows students to break the boundary between abstract thought and material realities. The second important method in the first years is collective work. Besides getting the students to learn from each other, playing on their strengths, it also displaces the individualistic egocentric imagination of the architect.

Introductory Workshop

This is the first academic engagement that the student has with the school. It is conducted for the first 7-10 days of the course. It has through the years worked on several levels at once.

1. To break the students of a classroom instructional mode of learning, into thinking through making, and learning and working as play and pleasure.
2. To replace the humiliations of ragging as a way to get to know the student community by a system of Teaching assistants who become friends and advisors through the disorienting newness of architecture school.
3. To make the students into a community of friends and colleagues, through group work, theatre exercises etc. Critical to this process are group-work, working with real materials and processes of making, and the teaching assistants who are able to engage with, befriend, guide and work with the groups.

Design Studios

Anthropological Brief

Courses: Architectural and Allied Design Studio

The First Year studio becomes a space for the first introduction to thinking spatially. The Body has to be implicated in this process. This body is how we begin to apprehend the world around us. Its anthropometry, phenomenological experiences, questions of subjectivity are central to this exploration. Parallel to this is the exploration of materiality and their potential affective and tectonic potentials. While the Architectural Design Studio focuses on questions of inhabitation, the Allied Design Studio is a space where the nature of Form is exploredits tectonic properties as well as the way that meaning emerges within it. In the projects intuitive modes of design are often placed with more analytical frameworks and vice versa. For both projects the experience of the city becomes an important context., whether that is through the subjective experience of the city, or the study of a character within the city through a particular lens. These lenses could be more empirical but could also be through the lens of metaphor.

The Technology and Representation Studios

Tactile and Tectonic

Courses: Technology Studio, Technology Lecture, Theory of Structures, Drawing Studio, Environmental Studies

With the intent to understand the tactile and the tectonic in the first year is largely intuitive with the emphasis of the technology as well as representation studios derive largely from observation of material realities. Natural materials and concepts of strength, rigidity and failure are best understood under the concepts of stability and equilibrium, including the basic principle of structural components are analyzed and understood. Smaller tasks as compared to large studios are preferred to understand the study of nature, form of everyday objects, material properties, techniques of the modular, monolith and hybrid concepts of construction. Hierarchy of building elements and structural forces through the art of observing as well as expressive and basic scaled drawings is the key to learning in the studio. The idea of hands-on learning is core to the technology studio whereby concepts of building are understood through both intuitive as well as structured analysis. Lastly learning from basics in environment, regional climates and their impact on the design of the vernacular to the understanding of the concept of being sustainable are at the threshold of the first years.

The Study Trip

The First year study trip allows a learner to see the architectural object within the systems of everyday life. Through a process of careful observation, pacing and representation, students are made to look at not merely the object of architecture but also the patterns of living of a community. Sites are chosen that are usually those that are usually small villages or towns for this exploration.

Architectural Theory

Courses: Sources of the Self (Visual Studies) , Thinking Through Form (Architectural Theory)

The two courses of Visual Studies/College projects and Theory of Design will work in tandem. While one looks through acts of engaging students in acts of researching and documenting and representing the visual world, the other is a lecture-based course that allows for comparative, conceptual frameworks to emerge. The First Year will be an introduction to the relationship between concept/idea and form. This will be done through an exposure and discussion on formal experiments, innovations and operations in art, literature, and architecture. The course will allow a loose chronology of ideas and movements in art and architecture.

It would expose students to works and images, through film, music, literature and architecture that resonate with each other. It would also aim to sensitise students to the differences and possibilities of medium and form. It will expose students to ways of seeing, understanding architecture through the frameworks of phenomenology, structuralism, formalism, psychoanalysis and surrealism through looking at parallel works by artists and architects.

The visual studies course would engage the students in a close reading of the world that they inhabit, through acts of documentation and representation. In enabling the act of closely looking and examining and drawing.

History Course

The first semester begins by questioning existing ideas of “What is History” and “Whose History” is shaping modern societies. Students will be introduced to the concept of social structures and the agrarian economy as the mode of production in this semester. The transition from hunter-gatherer to the agrarian mode of production enabled human control over their environment which facilitated the growth of cities and physical infrastructure thus marking these civilizations as distinct from the rest to follow.

Belief systems have played a crucial role in shaping societies across civilizations. In the second semester,

students are introduced to understand how religion has played a prominent role in defining and determining the culture of a society. Social stratification, theocratic rulership and a gradual shift from an agrarian society to the mercantile mode of production marked a visible impact on the built environment.

Tenet of Cosmology | Paradigm of belief and myth History of Egyptian Architecture | History of Buddhist Architecture | History of Mycenaean Architecture | history of Persian Architecture | Latin America

Humanities Courses

The First Year humanities course will investigate the relationships between social institutions (Kinship, property, gender, religion, caste, class, etc) and space. Through a functional analysis (that explains the persistence of these institutions through latent, unintended or unrecognized functions they fulfill) it will encourage students to read and analyze human settlements and elements of the built environment.

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Semester 1

Scheme of Teaching and Examinations

Scheme of Teaching and Examinations
Bachelor of Architecture (B. Arch.) Semester I

	Semester I Exam conducted by individual colleges	Teaching Scheme		Credits		
Sub. No.	SUBJECTS	Lecture	Studio	Theory	Studio	Total
101	Architectural Design Studio		4		4	4
102	Allied Design Studio		4		4	4
103	Architectural Building Construction & Materials	2	3	2	3	5
104	Theory & Design of Structures	3		3		3
105	Humanities	3		3		3
106	Environmental Studies	2		2		2
107	Architectural Representation & Detailing		3 +3		6	6
120	College projects		6		6	6
121	Elective		3		3	3
	Total	10	26	10	26	36

	Semester I Exam Exam conducted by individual colleges	Examination Scheme			
Sub. No.	SUBJECTS	Theory (paper)	Internal	External viva	Total
101	Architectural Design Studio		150		150
102	Allied Design Studio		150		150
103	Architectural Building Construction	70	80		150
104	Theory & Design of Structures	50	50		100
105	Humanities	50	50		100
106	Environmental Studies		50		50
107	Architectural Representation & Detailing		100+50		150
120	College projects		100		100
121	Elective		50		50
	Total				1000

Notes: Each period shall be of 50 minutes duration and each semester shall consist of 90 days of teaching programme.

The colleges are required to arrange the time table per semester as per the teaching scheme prescribed.

Semester 1

Semester 1

Time-Table

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
8.00 - 8.50	**Allied Design**		**Architectural Design & College Project**		**Architectural Representation and Detailing**		**Theory and Design of Structures**		**Architectural Design**			
8.50 - 9.40	*102*	*4*	*101*	*2 of 4 / 1 CP*	*207*	*4 of 6*	*104*	*2*	*101*	*2 of 4 / 2 CP*		
	Kausik	Mansi	Ainsley	Amisha	Sandeep	Mamta	Rajitha	Kumaraguru	Ainsley	Amisha		
	Sonal	Apurva T	Shraddha	Nnikhil	Misbah	Sonal	Neeraj		Shraddha	NNnikhil		
	Misbah	Kruti			Sanaeya	Ankush						
9.40 - 10.30	Pratyusha		Rohit M	Rika	Pratyusha		**Architectural Building Construction and Detailing**		Rohit M	Rika		
			Ankush	TA -Smruti, Aishwarya			103	5	Ankush	TA -Smruti, Aishwarya		
10.30 - 11.20			Misbah	Sonal Sancheti					Misbah	Sonal Sancheti		
11.20 - 12.00	B R E A K											
12.00-12.50	**Building Technology (College Project)**		**Humanities**		**Encounter**				**Architectural Theory (College Project)**			
	120	*2 CP + 1 TOS*	105	3					120	1 CP		
12.50 - 1.20	L U N C H B R E A K											
1.20 - 2.10	Kaushik	George	Hussain	Shweta	**Environmental Studies**		Mamta	Ainsley	**Visual Studies (ARD)**			
	Shirish				*106*	*2*	Rutika	Sanaeya	120	2 of 6 ARD		
2.10 - 3.00	Apurva P				Sandeep	Minal	Ankush		Kausik	Mansi		
						Kimaya			Pratyusha	Misbah, Pratyusha		

BARC 101	COURSE NAME	**ARCHITECTURAL DESIGN**	SEMESTER	I	CREDITS	**7**(TUESDAY-2 (ARCH DESIGN)+2COLLEGE PROJECTS+ FRIDAYS-2 (ARCH DESIGN+1COLLEGE PROJECTS))
	FACULTY	Ainsley, Nikhil, Shraddha, Amisha, Rohit M, Ankush, Misbah, Sonal San. TA: Smriti, Aishwarya	SESSIONAL MARKS	**150 Arch Design+ 50 College Projects**	SCHEME OF EXAMINATION	**INTERNAL VIVA**
	TIME	TUESDAYS 8-11:20 AND FRIDAYS 8-10:30	TEACHING HOURS	60	TIME REQUIRED OUTSIDE OF CLASS	**4 HRS A WEEK**

UNIVERSITY COURSE DESCRIPTION	Understanding the human body in space Activities and their relation ship with spaces Scales and proportions Developing a language vocabulary, visualization Exposure to architecture, Exposure to architects and their works Buildings, practices, site visits, meeting architects.
PEDAGOGIC INTENT	**PROJECT 1: CASE STUDIES** The first-semester initial exercise focused on the student's ability to draw and identify the elements of space making without any measure drawing. The site visits were made to some prominent architectural marvels in the city. When they were at the site they derived their methods of proportion system to sketch the elements proportionately. The faculty helped them identify elements oF spaces making in class on the site visit and later during the one to one design sessions. The main motto was to establish their engagements with these buildings which they experienced. Components for Kit: The first semester was geared towards developing a basic understanding of design principles and the elements of architecture. To this end, theoretical discussions on the various elements and their arrangement, to achieve specific architectural goals were held. Through site visits to various architectural examples around the city, the students were encouraged to gain a perspective on real-world applications of the architectural composition of elements. At the end of the phase of site visits, stage 1 if you may, the students were encouraged to link their learnings of architectural elements and their assembly, to actual projects. The studio project was envisioned as a large exercise with distinct phases in the design process. These are as follows: **PROJECT 2: Composition of volumes** First operation: Addition of elements from a "kit of parts" Second operation: spatial operations such as scaling, the introduction of linking planes (vertical and horizontal), shearing and slicing. The intent, in the form of an experiential program of "play", was introduced at the second phase. The students were encouraged to explore multiple interpretations of the play, experiential in nature. As opposed to a concrete deliverable of habitable spaces, the students were prompted to generate spaces of experience that were playful, keeping in mind the scale of spaces, their impacts and the use of elements in such spaces > 1 nos FOCAL POINT, > 9nos COLUMNS, > 3 nos PLANES **Material:** (Make in Ivory Card) **Operations:** 26 First Year - Semester I Documentation First Year - Semester I Documentation 27 (Shrinking/Enlarging by 50%) (With stairs and levels) 1. SCALE: 2. CONNECTIONS: 3. SLICING/CUTTING: (To understand effect of light and atmosphere)
METHOD	The studio exercises laid out a frameork for individual understanding and learning- beginning with analysis of architectural objects and then, of exploration and play with architectural elements. The studios were structured learning sessions, with each session introducing students to a new tool or aspect through lectures and discussions on their individual works.

SCHEDULE	**DAY**	**DATE**	**TEACHING CONTENT OF THE DAY**	**ASSIGNMENT/ DELIVERABLE**
			August:	
	Tuesday	13/08/19	Class 1) Introduction - ppt, point and plane - reader kit (with drawings of the building) + site visit with faculty.	Deliverables: Site Visit, instruct them on deliverables for 2nd class
	Friday	16/08/19	Class 2) Pinup during the first half after which talk on elements.	
	Tuesday	20/8/19	Class 3) Pencil sketches / photos (5 sketches)	Deliverables: Working on diagramming the elements of an assigned building after the site visit.
	Friday	23/8/19	Class 4) Introduction to diagramming (PPT/lecture)	
	Tuesday	27/08/19	Class 5) Working studio / discussion of the diagrams / 3D drawings of the elements.	
	Friday	30/08/19	Class 6) Exhibition of panels (5 sketches, 2 drafted drawings, diagramming, 3D)	
	Tuesday	03/09/19	Introduction to modelling, materials, etc.	
	Friday		Class 7)Working studio - model making exercise.	
	Tuesday	06/09/19	Class 8)Final presentation and culmination of stage 1. Introduction to the next project	
	Friday	17/09/19	Working Studio	Deliverables: 4 NOS 3 cm x 3 cm x 3 cm FRAME (with frame thickness3mm)+ 4NOS3cmX3cmSOLID+2NOS6 cmX6 cmx 6 cm FRAME with frame thickness 3mm. Components have to be made with white ivory card.
	Tuesday	20/9/19	Discussion in the respective groups. Assembling the cubes, then drawing on tracings the different configurations to be done in class + document it with a series of photos to finalise 3/4 iterations. Introduce the Program: Play Spaces and the Kit of Elements. Learnings: Spatial/ Massing Sketch of Spatial Compositions	
	Friday	24/9/19	Discussion in the respective groups. Assembling the cubes, then finalising one iteration. Introduce the Operations. Learnings: Understand the nature of program and habitable space	Deliverables: 3 MODELS : With each operation in any orc

	Tuesday		HOLIDAY			
	Friday	27/9/19	Discussion over further iterations over models. Introduce Operations of Tilting/Twisting/Warp.			
	Tuesday	29/9/19	Discussion + Introduction to Drawing.		Deliverables: Plan Section and Elevations	
	Friday	1/11/19	Working Studio for Drawings. Deliverables: Axonometric Drawing.			
	Tuesday	5/11/19	Final Review.		150 Marks Arch Design+ 30 College Projects (Resolution)	Deliverables: One Axonometric Drawing and Final Model + Process Models
LEARNING OUTCOMES	*Achieve an understanding of formal qualities, relationship between the body and form/space, scale, Skills of drawing, making, working with different materials. T*					
READING LIST						

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Design Semester 1*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the

concrete. (Abstract / Concrete.

4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Design
Course Code: BARC 101 **Sem 1** **Name Year 2019-20**

Course Objectives: To achieve an understanding of formal qualities, relationship between the body and form/ space, scale, Skills of drawing, making, working with different materials.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To read and analyze architectural works.
CO2	To apply their analysis of architectural works in the manipulation of form and space through a design process and to create/author an original individual work.
CO3	To apply techniques of spatial representation in the form of final drawings and models.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 150**	**Exercise 01 Marks out of**	**Credits**	**Date of submission**		
FIRST YEAR - SEM 1	**Architectural Design**		BARC**101**	**150**	**150**	7= 4 Architectural Design +3 College Projects	5th Nov 19		
Exercise: Title	Architecture as Play-Elements, Volumes, Operations, Composition								
Exercise Note / Task	**PROJECT 1: CASE STUDIES** The first-semester initial exercise focused on the student's ability to draw and identify the elements of space making without any measure drawing. The site visits were made to some prominent architectural marvels in the city. When they were at the site they derived their methods of proportion system to sketch the elements proportionately. The faculty helped them identify elements oF spaces making in class on the site visit and later during the one to one design sessions.The main objective was to establish their engagements with these buildings which they experienced. Components for Kit: The first semester was geared towards developing a basic understanding of design principles and the elements of architecture. To this end, theoretical discussions on the various elements and their arrangement, to achieve specific architectural goals were held. Through site visits to various architectural examples around the city, the students were encouraged to gain a perspective on real-world applications of the architectural composition of elements. At the end of the phase of site visits, stage 1 if you may, the students were encouraged to link their learnings of architectural elements and their assembly, to actual projects. The studio project was envisioned as a large exercise with distinct phases in the design process. These are as follows: **PROJECT 2: Composition of volumes** First operation: Addition of elements from a "kit of parts" Second operation: spatial operations such as scaling, the introduction of linking planes (vertical and horizontal), shearing and slicing. The intent, in the form of an experiential program of "play", was introduced at the second phase. The students were encouraged to explore multiple interpretations of the play, experiential in nature. As opposed to a concrete deliverable of habitable spaces, the students were prompted to generate spaces of experience that were playful, keeping in mind the scale of spaces, their impacts and the use of elements in such spaces > 1 nos FOCAL POINT, > 9nos COLUMNS, > 3 nos PLANES **Material:** (Make in Ivory Card) **Operations:** 26 First Year - Semester I Documentation First Year - Semester I Documentation 27 (Shrinking/Enlarging by 50%) (With stairs and levels) 1. SCALE: 2. CONNECTIONS: 3. SLICING/CUTTING: (To understand effect of light and atmosphere)								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0

Area of Evaluation									
Analysis of the Architectural Object	Drawings and Models that reflect a deep and profound understanding of the topic	Drawings and Models reflect a clear understanding of the topic	Drawings and Models that reflect a clear understanding of the topic	Drawings and Models reflect a clear understanding of the topic	Drawings and Model reflect a very good understanding of the topic.	Drawings and Models reflect a good understanding of the topic.	Drawings and Models reflect a fair understanding of the topic.	Drawings and Models reflect a satisfactory understanding of the topic.	Drawings and Modelsreflectcomplete lack of effort at understanding.
Three dimensional explorations of form and space	Unique and original explorations of material and form. Independent a choices of material and experimentation. Shows great sensitivity and immersion in the subject.	Unique and original explorations Outstanding effort and experiments with form and material.	Outstanding explorations in material and form. Work reflects great rigour and clarity of thought.	Excellentexplorations in material and form. Work reflects an excellent rigour and clarity of thought.	Very Good explorations in material and form. Work reflects a rigour and clarity of thought.	Good explorations in material and form. Work reflects a rigour and an engagement with iterative processes.	Fair explorations in material and form. Work reflects a fair amount of clarity of thought.	Satisfactory explorations in material and form. Work reflects a fair amount of rigour.	Work reflect a. failure to engage in the process. No attempt made at explorations in form and material.
Explorations of the expressive possibilities of drawings	Unique and original explorations of drawings Independent and fearless experimentation.	Unique and original explorations in drawing. Outstanding effort and experiments.	Outstanding explorations in drawing.Work reflects great rigour and clarity of thought	Excellentexplorations through drawings. Work reflects an excellent rigour and clarity of thought	Very Good explorations through drawings. Work reflects a rigour and clarity of thought	Good explorations in drawing. Work reflects a rigour a	Fair explorations in drawing Work reflects a fair amount of rigour	Satisfactory explorations in drawing Work reflects a fair amount of rigour	No attempt made at explorations.

Rigour and regularity and consistency of work	Shows great sensitivity and immersion in the subject. Extraordinary amount of rigour and process work. Self-relexive and iterative process work.	Outstanding rigour, effort and rigour and immersion in iterative processes. Self-relexive and iterative process work.	Outstanding rigour, effort and consistency of work. Self-relexive and iterative process work.	Excellent rigour, effort and consistency of work.	Very good engagement with iterative processes.	Good engagement with iterative processes.	Fair amount of rigour and engagement through the process.	Satisfactoryamount of rigour and engagement through the process.	Work reflect a. failure to engage in the process.

COPO Mapping Setup for Sem 1

CO-PO mapping for a course of "**UG Program**								
Sr. No.	CO description	PO1	P O 2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To read and analyze architectural works.	1	3	2	0	0	0	1	1
CO2	To apply their analysis of architectural works in the manipulation of form and space through a design process and to create/ author an original	1	3	3	0	0	0	2	1
CO3	To apply techniques of spatial representation in the form of final drawings and models.	2	3	3	0	0	0	2	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC. 102	COURSE NAME	ALLIED DESIGN	SEMESTER	I	CREDITS	4
	FACULTY	Kausik M, Misbah H, Pratyusha S, Sonal S, Kruti H, Mansi B	SESSIONAL MARKS	150	SCHEME OF EXAMINATION	INTERNAL
	TIME	Monday 8-11:20	TEACHING HOURS	60	TIME REQUIRED OUTSIDE OF CLASS	4

UNIVERSITY COURSE DESCRIPTION	The course content will be developed by the individual colleges as per their choice of Allied Design scheme.The schemes may include Visual Studies, Basic Design, Graphic Design, Product Design, Furniture Design, Design of Outdoor Spaces
PEDAGOGIC INTENT	**First Year Allied Design -Kanheri Caves** Drawing Spatial Experience - Kanheri The project explored the manipulation of the space of the drawing to express spatial experience. Students went to Kanheri Caves and made sketches on site. In the second stage they were introduced to various devices and techniques of drawing spatial narratives. They then made a drawing of their experience at Kanheri into drawings that could be made into devices, three dimensional or folded works. Drawing Spatial Experience - Kanheri. **Shop Exercise**-The project explored technical architectural drawing techniques to express the space of inhabitation, and narrative space.
METHOD	Teaching method- Setting up and guiding individual explorations in drawing. Lecture presentations on narrative and experiential drawings. Reviews and discussions of individual works in groups.

SCHEDULE	DAY	DATE	NG CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/ DELIVERABLE
Week 1	MONDAY	12-8-19	Introduction		
Week 2	MONDAY	19-8-19	Working Class		
Week 3	MONDAY	26-8-19	Desk Crit		
Week 4	MONDAY	9-9-19	Desk Crit		
Week 5	MONDAY	16/9/2019	interpretation,		Sketch ideas and process work
Week 6	MONDAY	23/9/2019	Review- Idea of the work		
Week 7	MONDAY	30/9/2019	Making the 3d work		
Week 8	MONDAY	7/10/19	Making the 3d work		
Week 9	MONDAY	14/10/19	Making the 3d work		
Week 10	MONDAY	21/10/19	Final Review		Drawings and process pin up
Week 11	MONDAY	28-Oct-19	**Shop Exercise Introduction**		
Week 12	MONDAY	4/11/19	Review of work and Lecture presentation		
Week 13	MONDAY	11/11/19	Final Review		Drawings and process pin up

LEARNING OUTCOMES	*Achieve an understanding of formal qualities, relationship between the body and form/space, scale, Skills of drawing, making, working with different materials. T*
READING LIST	**1. Building Stories, Chris Ware**

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Allied Design Semester One*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
1. To enable the student to script one's own project
2. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
3. To enable the student to extract and the abstract from the experiential and center it as the basis of design
4. To enable the student to break the boundary between abstract thought and material realities
5. To enable students to discover multiple methods and tools to develop their own process of learning
6. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort

zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Allied Design
Course Code: BARC 102 **Sem 1** **Name Year 2019-20**

Course Objectives: I

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand and analyse their own experience of space and context
CO2	To understand the expressive and narrative possibilities of drawing as spatial representations.
CO3	To create/author an original individual work.

Rubrics: Exercise 1 Kanheri

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 150**	**Exercise 01 Marks out of**	**Credits**	**Date of submission**		
FIRST YEAR - SEM 1	Allied Design		**BARC102**	150	75	4	21st Oct 2019		
Exercise: Title	Kanheri Caves								
Exercise Note / Task	**First Year Allied Design -Kanheri Caves** Drawing Spatial Experience - Kanheri The project explored the manipulation of the space of the drawing to express spatial experience. Students went to Kanheri Caves and made sketches on site. In the second stage they were introduced to various devices and techniques of drawing spatial narratives. They then made a drawing of their experience at Kanheri into drawings that could be made into devices, three dimensional or folded works. Drawing Spatial Experience - Kanheri.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									

Choice and understanding of spatial experience	Choice reflects and enquiry an immersive engagement with site and extreme sensitivity. The articulation of spatial experience through drawings displays outstanding sensitivity and rigour. The work is experimentation and innovative and original. It exceeds the brief of the project in its attempts at exploring and expressing the nuances spatial experience.	Choice and enquiry reflects an immersive engagement with site. The articulation of spatial experience through drawings displays outstanding rigour. The work is experimentation and innovative and original	Choice and enquiryreflects an immersive engagement with site. The articulation of spatial experience through drawings is outstanding	Choice and enquiry reflect a excellent degree engagement with site. The articulation of spatial experience through drawings displays is .excellent.	Choice and enquiry reflect a very good degree engagement with site. The articulation of spatial experience through drawings displays is very good.	Choice and enquiry reflecta good degree engagement with site. The articulation of spatial experience through drawings displays is good.	Choice and enquiry reflect a fair degree engagement with site. The articulation of spatial experience through drawings is fair	Choice and enquiry reflectan engagement with site. The articulation of spatial experience through drawings satisfactory.	The wor shows n engagen nt with site . Th work lacks effort ar is of unaccep ble quality.
Engagement with process	Immersive and rigorous explorations. Innovative and Original InventiveTechniques in experimenting with media and techniques. The work breaks new ground.	Immersive and rigorous explorations. Innovative and Original InventiveTechniques in experimenting with media and techniques. The work breaks new ground.	Outstanding explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	Excellent explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	Very good explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	Good explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	A fair amount of explorations through the process. An understanding of conventional techniques in experimenting with media and techniques.	A satisfactory amount of explorations through the process. A satisfactory understanding of conventional techniques in experimenting with media and techniques.	No engage ent wit process

The quality of final work and presentation.	The final work is of outstanding quality. It is innovative and original displayingoutsanding skill and understanding. It is presented in a original and innovative manner that reflects an extraordinary sensitivity to the experience of the body.	The final work is of outstanding quality. It is innovative and original displaying great skill and understanding. It is presented in a manner that reflects a great sensitivity to the experience of the body.	The final work is of outstanding quality. It is innovative and original displaying great skill and understanding. It is presented in a original and innovative manner.	The final work is of excellent quality. It is innovative displaying great skill and understanding.	The final work is of very good quality. It displays skill and understanding.	The final work is of good quality. It displays a good amount of skill and understanding.	The final work is of fair quality. It displays fair amount of skill and understanding.	The final work is of satisfactory quality. It displays a fair amount of skill and understanding.	The work is incomplete and displays a complete lack of effort and skill.

Rubrics: Exercise 2 -Shop

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 150**	**Exercise 01 Marks out of**	**Credits**	**Date of submission**		
FIRST YEAR - SEM 1	Allied Design		BARC **102**	150	75	4	11th Nov 2019		
Exercise: Title	Shop								
Exercise Note / Task	**Shop** -The project explored technical architectural drawing techniques to express the space of inhabitation, and narrative space. Each student chose a shop to study and draw.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Choice and understanding of spatial experience	Choice reflects and enquiry an immersive engagement with site and extreme sensitivity. The articulation of spatial experience through drawings displays outstanding sensitivity and rigour. The work is experimentation and innovative and original. It exceeds the brief of the project in its attempts at exploring and expressing the nuances spatial experience.	Choice and enquiry reflects an immersive engagement with site. The articulation of spatial experience through drawings displays outstanding rigour. The work is experimentation and innovative and original	Choice and enquiry reflects an immersive engagement with site. The articulation of spatial experience through drawings is outstanding	Choice and enquiry reflect a excellent degree engagement with site. The articulation of spatial experience through drawings displays is .excellent.	Choice and enquiry reflect a very good degree engagement with site. The articulation of spatial experience through drawings displays is very good.	Choice and enquiry reflecta good degree engagement with site. The articulation of spatial experience through drawings displays is good.	Choice and enquiry reflect a fair degree engagement with site. The articulation of spatial experience through drawings is fair	Choice and enquiry reflectan engagement with site. The articulation of spatial experience through drawings satisfactory.	The work shows no engagement with site . The work lacks effort and is of unacceptable quality.

Engagement with process	Immersive and rigorous explorations. Innovative and Original InventiveTechniques in experimenting with media and techniques. The work breaks new ground.	Immersive and rigorous explorations. Innovative and Original InventiveTechniques in experimenting with media and techniques. The work breaks new ground.	Outstanding explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	Excellent explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	Very good explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	Good explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	A fair amount of explorations through the process. An understanding of conventional techniques in experimenting with media and techniques.	A satisfactory amount of explorations through the process. A satisfactory understanding of conventional techniques in experimenting with media and techniques.	No engagement with process
The quality of final work and presentation.	The final work is of outstanding quality. It is innovative and original displayingoutstanding skill and understanding. It is presented in a original and innovative manner that reflects an extraordinary sensitivity to the experience of the body.	The final work is of outstanding quality. It is innovative and original displaying great skill and understanding. It is presented in a manner that reflects a great sensitivity to the experience of the body.	The final work is of outstanding quality. It is innovative and original displaying great skill and understanding. It is presented in a original and innovative manner.	The final work is of excellent quality. It is innovative displaying great skill and understanding.	The final work is of very good quality. It displays skill and understanding.	The final work is of good quality. It displays a good amount of skill and understanding.	The final work is of fair quality. It displays fair amount of skill and understanding.	The final work is of satisfactory quality. It displays a fair amount of skill and understanding.	The work is incomplete and displays a complete lack of effort and skill.

COPO Mapping Setup for Sem 1

CO-PO mapping for a course of "UG Program "									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO4	PO5	PO6	PO7	PO8
1	To understand and analyse their own experience of space and context	1	3	2	1	0	1	2	0
2	To understand the expressive and narrative possibilities of drawing as spatial representations.	1	3	2	1	0	1	2	2
3	To create/author an original individual work.	2	3	2	1	0	1	2	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 103						
	COURSE NAME	Architectural Building Construction & Materials I	SEMESTER	One	CREDITS	5
	FACULTY	Mamta, Ainsley, Ankush, Sanaeya	SESSIONAL MARKS	80	SCHEME OF EXAMINATION	Theory - 70 Marks
	TIME	09:40 - 3:00	TEACHING HOURS	3.3	TIME REQUIRED OUTSIDE OF CLASS	3

UNIVERSITY COURSE DESCRIPTION	The course content deals with the **elements of buildings** - Substructure/ Superstructure; Understanding role of building elements; Understanding construction built form & building practice; Pradigms: load bearing structures, frame structuresStudy of Simple buildings from foundation to roof; Building construction drawing practices and models **Building materials:** Contexual relevance - what are buildings made of; Natural and Artificial materials - where they are used; Materilas shall be studied by understanding their properties viz. Density ad specific gravity, strength, thermal properties; The study shall strongly emphasize the " Selection Criteria" comprising various aspects viz. Technology, Aesthetic, Socio-Cultural, Socio-economic, Ecology green materials), etc.
PEDAGOGIC INTENT	The intent of the course is to introduce the learner to various building systems, and its relation to context, topography, structure, materials and behaviour: The various systems are broadly classified into Roofing, Flooring, Envelopes, Foundations and Structure. Semester I The learners will be guided through the different architectural building components, contextual issues such as climate, material and technology for each of the systems. The students are made aware that the choice of the various systems of construction is a resultant of the context. The learners understanding would be further reinforced through different examples of vernacular, traditional and contemporary work of architecture. The various building systems will be examined both independently and in the manner in which they interact and affect one another. Semester II The second term focusses on specific material (natural and industrial) and the manner in which they work together. The learner will be taught the nature of the materials along with a. Resultant architectural elements b. Structural understanding c. Component sizes
METHODOLOGY	Observing and recording through site visits. Application through drawing and Modelling to demonstrate learning. Developing analytical skills to understand material, structure and forces. nderstanding and assimilation of the fundamentals taught in the lectures. 2. Studio exercises to guage the understanding and assimilation of knowledge - Drawings for representation; Hands on model making and testing to understand forces etc. 3. Assignments on market research

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Thursday	29-Aug-19	Introduction to Building Material and Construction. Examining the role of building elements. Working from part to whole by assimilating the various elements into complete systems (e.g. Walling, framing, fenestrations, foundation roofing, flooring etc.) based on materials. Introducing architects proficient in working with specific materials.		
week 2	Thursday	5-Sep-19	Introduction to Building Material and Construction. Examining the role of building elements. Working from part to whole by assimilating the various elements into complete systems (e.g. Walling, framing, opening, fenestrations, foundation roofing, flooring etc.) based on materials. Introducing architects proficient in working with specific materials.		
week 3	Thursday	12-Sep-19	Presentation by Students - Systems understanding based on study of specific material in specific geographical and topographical conditions	10	Individual Work: A comprehensive understanding of the various elements
week 4	Thursday	19-Sep-19	Study of the rural house as per different cultural or geographical parameters. Special attention paid to the reading of architectural drawings		
week 5	Thursday	26-Sep-19	Presentation by Students - rural homes - indegenious typology and systems of construction	20	Group Work: A comprehensive understanding of traditional systems of construction based on locally available materials, skills and climatic conditions
week 6	Thursday	3-Oct-19	Modules used for construction i.e.Clay blocks, etc. Development of walling system using bricks as a module of construction. Bonds - english and flemish bonds.		
week 7	Thursday	10-Oct-19	Exploration of brick bonds in innovative ways emphasising on quoins, junctions and openings. Clarification of structural concepts that lead to different aspects of load bearing construction. Working studio on brick bonds		Group Work: Hands on exercise
week 8	Thursday	17-Oct-19	Details for a load bearig unit (35 sq.m) with openings in any unit of construction.		Sheets with diagrams, sketches and note on materials used, the various types and examples
week 9	Thursday	24-Oct-19	Framing and Walling Systems (Structural Components, Units, Material, Construction Techniques)-Differentiate between load bearing and framed structures.	30	Individual Work: Sheet showing plan, elevation and section of brick bonds
week 10	Thursday	31-Oct-19	Foundation systems (Shallow, deep, raft, pile etc.) (Structural Components, Units, Material, Construction Techniques)		Sheets with diagrams, sketches and note on materials used, the various types and examples

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Building Construction and Materials*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Construction and Materials
Course Code: BARC 103 Sem 1 First Year

Course Objectives:
The intent of the course is to introduce the learner to various building systems, and its relation to context, topography, structure, materials and behavior: The various systems are broadly classified into Roofing, Flooring, Envelopes, Foundations and Structure. In Semester 1, the learners will be guided through the different architectural building components, contextual issues such as climate, material and technology for each of the systems. The students are made aware that the choice of the various systems of construction is a resultant of the context. The learners understanding would be further reinforced through different examples of vernacular, traditional and contemporary work of architecture. The various building systems will be examined both independently and in the manner in which they interact and affect one another.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understanding the role of Building elements in a system of construction
CO2	Understanding the properties of materials such as brick and wood, their relevance, and their application to the load-bearing and timber framework tectonic systems, respectively.
CO3	Analytical understanding of load-bearing systems
CO4	Context-specific learnings of a Tectonic systems and principles through the articulation of materials
CO5	Evaluation of structural articulation of materials through drawing plates and hands-on experiments

Rubrics:

Year of Assessment : 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture							
Year & Sem	**Subject: Architectural Building Construction and Materials**	**University Subject Code**	**Sessional Marks:**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
FIRST YEAR - SEM 1		**103**	**80 (Internal)**		**Studio (3) + Lecture (2) = 5**	**Multiple**		
Exercise: Title	Systems and Principles in Building Construction							
Exercise Note / Task	A comprehensive understanding of building systems and principles of construction based on locally available materials, skills and climatic conditions. The students are also expected to draft detailed construction plates, highlighting the materials and the details they choose use. The course also includes presentation of a student's understanding of materials and construction techniques through reports.							
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Data Gathering/ monitoring and collating	All data to be collected from reliable sources with references included in the reports. Exceptional in showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected.	All data to be collected from reliable sources with references included in the reports. Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with most references included in the reports. Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks

Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Very well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Excellent curation using outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation.	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
Representation Technique and final submission	Final presentation is complete with all process, concept, process and logic represented in original and innovative ways. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organisation. The drawings and models are consistently of outstanding, quality.	Final presentation is complete with all process, concept, process and logic represented in innovative ways. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organisation. The drawings and models are largely consistently of outstanding, quality.	Final presentation is complete with all process, concept, process and logic represented. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organisation. The drawings and models are fairly consistently of excellent quality.	Final presentation is complete with all process, concept, process and logic represented. The presentation is self-explanatory and shows an excellent level of skill in arranging and organisation. The drawings and models are fairly consistently of excellent quality.	Final presentation is complete with all process, concept, process and logic represented. The presentation is self-explanatory and shows very good levels of skill in arranging and organisation. The drawings and models are fairly consistently of very good quality.	Final presentation is complete with the process, concept, process and logic well represented. The presentation is self-explanatory and shows good levels of skill in arranging and organisation. The drawings and models are fairly consistently of good quality.	Final presentation is complete with a fair amount of process, concept, process and logic represented. The presentation is self-explanatory and shows good levels of skill in arranging and organisation. The drawings and models show a fair amount of clarity and skill.	Final presentation is complete with a satisfactory amount of process, concept, process and logic represented. The presentation is self-explanatory and shows satisfactory levels of skill in arranging and organisation. The drawings and models are of a satisfactory quality.	Final presentation is incomplete with the process, concept, process and logic not represented clearly. The presentation is unclear and illogical and shows poor levels of skill in arranging and organisation. The drawings and models are of poor quality.
Model Making and Analysis	The models display an enthusiasm and effort to take on challenging and difficult levels of resolution. They break new ground in terms of their innovation and inventiveness and effort. They are exquisitely constructed, with a innovative and sophisticated understanding of material,	The models display an enthusiasm and effort to take on challenging levels of resolution. They are innovative and and inventive and display outstanding effort. They are excellently constructed, with a clear understanding of material, structure, technique.	The models display outstanding effort and rigour. They are excellently constructed, with a clear understanding of material, structure, technique.	The models display excellent effort and rigour. They are well constructed, with a clear understanding of material, structure, technique.	The models display a very good effort and rigour. They are well constructed, with a clear understanding of material, structure, technique.	The models display a good effort and rigour. They are well constructed, with a clear understanding of material, structure, technique.	The models display a fair amount effort and rigour. They are constructed, with a fair understanding of material, structure, technique.	The models display a satisfactory amount effort and rigour. They are constructed, with a satisfactory understanding of material, structure, technique.	The models display a lack of effort or rigour. They are poorly constructed, with no understanding of material, structure, technique.

	structure, technique.								
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem 1, 2019-2020

CO-PO mapping for a course of B. Arch First Year Architectural Building Construction and Materials									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understanding the role of Building elements in a system of construction	2	3	3	0	2	3	3	2
CO2	Understanding the properties of materials such as brick and wood, their relevance, and their application to the load-bearing and timber framework tectonic systems, respectively.	3	3	3	0	0	3	3	2
CO3	Analytical understanding of load-bearing systems	2	3	3	0	0	1	3	0
CO4	Context-specific learnings of a combined tectonic system that includes load bearing as well as timber frame elements.	3	3	3	3	3	3	3	3
CO5	Evaluation of structural articulation of materials through drawing plates and hands-on experiments	3	3	3	1	3	1	3	0

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC104						
	COURSE NAME	Theory and Design of Structures I	SEMESTER	Sem 1	CREDITS	3
	FACULTY	Rajitha Gopinath, Kumaraguru, Neeraj	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 Marks
	TIME	8:00-9:40	TEACHING HOURS	54 periods of 50 minutes duration- 45 hours	TIME REQUIRED OUTSIDE OF CLASS	None
what	UNIVERSITY COURSE DESCRIPTION					
why	PEDAGOGIC INTENT	*To think in architecture, to feel in structure-by encouraging analytical thinking, understanding of structural principles and, finally, attempting to try something new and unconventional (an experiment) in the studio*				
how	METHOD	Experimental Learning with discussions and problem solving to understand the basics of structural systems. Confucius exemplified this wisely: "I hear and I forget. I see and I remember. I do and I understand"				

when	SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
	week 1	Thursday	08/08/2019	Evolution of the built environment and its structural integrity over a timescale		
	week 2	Thursday	22/08/2019	Analysing existing buildings through the reference of "Form follows function" or "Form follows structure"		
	week 3	Thursday	29/08/2019	Presentation of Projects with challenging geometries contradicting gravity.		
	week 4	Thursday	05/09/2019	Centre of Gravity of an object? Discovering the CG of any arbit object in class.		Experiment in class
	week 5	Thursday	12/09/2019	What is moment of Inertia? and other properties of sections.		
	week 6	Thursday	19/09/2019	Introduction to nature of forces		ERGONOMIC EXERCISE
	week 7	Thursday	26/09/2019	Identifying basic structural elements and its role in load transfer mechanism.		
	week 8	Thursday	03/10/2019	Understanding Bending Moment, Shear Force through an experimental set up comprising of weighing scale, and types of Support & Loading Conditions.		

EVALUATION CRITERIA	*Assessing analytical ability through exercises and tests*
LEARNING OUTCOMES	*Structuring should offer the student of architecture information about the beauty of construction, how the construction lives and how it resists the pressure of gravity. In the end, a student must have a rational answer to all the why? questions. An architect should feel what is going on in a structure without needing to count it exactly*

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Theory and Design of Structures 1*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project.
6. To enable the student to observe, experience, analyze space, its physicality, and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design.
8. To enable the student to break the boundary between abstract thought and material realities.
9. To enable students to discover multiple methods and tools to develop their own process of learning.
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Theory and Design of Structures 1
Course Code: BARC 104 Sem 1 First Year

Course Objectives:

- Develop analytical thinking skills and a deep understanding of the principles and fundamentals of structural design in architecture.
- Explore the relationship between architecture and structure, encouraging students to think critically and creatively to achieve unconventional and experimental design solutions with identifying and examining structural systems in nature, exploring their forms, functions, and lessons that can be applied to architectural design.
- Understand the mechanics of structures, including the reasons why things don't fall down and the ways in which structural systems create inner space and analyze and comprehend different types of loads acting on structures, including their effects, units, and conditions of equilibrium.
- Gain knowledge of the forces and moments that occur in structures, including their definitions, causes, effects, and units.
- Develop an understanding of the concept of center of gravity and its significance in the stability and balance of structures.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To develop a deep appreciation for the beauty and aesthetics of construction, recognizing the harmony between structural design and architectural expression.
CO2	To gain a thorough understanding of how construction techniques and materials interact to resist the forces of gravity, enabling students to explain the underlying principles and mechanisms.
CO3	To cultivate a rational approach to structural design by providing logical answers to questions, demonstrating an understanding of the structural behavior and performance of building elements and systems on an intuitive and experiential level.
CO4	To foster the ability to intuitively perceive and feel the behavior of structures, enabling architects to develop an innate sense of how forces flow and interact within a building.

Rubrics:

Year of Assessment : 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
FIRST YEAR - SEM 1	**TDOS1**	**BARC 104**	**104**	**50**	**50**	**3**	**Multiple**		
Exercise: Title	Experiments to understand various forces, loads, geometry and types of structural systems								
Exercise Note / Task	Report of the exercise and readings from experiments								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Depth of Inquiry and ability to think intuitively	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoproratin g the minimum requirement s	Arbitary and Adhoc Inquiry
Exploring & designing	Showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks

Compilation for Report and readings	Very well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Clear formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Very good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Fairly formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Barely managed to get clarity of intent and study using poor diagrams and sketches	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and understanding of the subject
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participatio n	Poor participation and absence

COPO Mapping Setup for Sem ……1

Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Developing an intuitive understanding of the relevant rules of physics in the context of structural behavior.	2	3	0	0	0	0	2	2
CO2	To gain a thorough understanding of how construction techniques and materials interact to resist the forces of gravity, enabling students to explain the underlying principles and mechanisms.	0	1	1	2	0	0	2	0
CO3	Gaining a basic understanding of the process of structural design for simple and complex structural systems.	2	2	1	1	0	1	3	0
CO4	Understanding the unique roles of architects and structural designers in the process of architectural design and construction and the interaction between the two	0	0	0	0	1	2	0	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 105						
	COURSE NAME	HUMANITIES (2019-20)	SEMESTER	One	CREDITS	3
	FACULTY	Hussain, Shweta	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 mark
	TIME	Tuesday 12 pm	TEACHING HOURS	Lecture	TIME REQUIRED OUTSIDE OF CLASS	None

what	UNIVERSITY COURSE DESCRIPTION	*None*
why	PEDAGOGIC INTENT	*The first year humanities course will investigate the relationship between natural systems, social structure and the organization of space. The course will explore three socio-natural dimensions that determine settlement patterns and morphology: (1) natural constants (terrain, climate, resources, materials); (2) social orders (kinship, economy, religion, military, politics); (3) social spheres (technics, symbolism, law/plans, cadaster, infrastructure). The course, as an interdisciplinary introduction to settlement studies will combine insights from sociology, ecology, technology and urbanism, through a broad historical-comparative method of inquiry. The first year field trip will be an integral part of the course.*
how	METHODOLOGY	*The course will be a weekly lecture and discussion seminar, of 2 hours per session. The first few sessions as lecture inputs will acquaint students to the framework described above. Subsequent sessions will be a combination of short lecture inputs on a dimension - natural constant, social order or social sphere – followed by discussions over a series of diagrams / maps that express and help explain the idea.*

when

SCHEDULE	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	27th Aug	*Introduction pt 1: Natural Constants*		
week 2	3rd Sept	*Introduction pt 2: Social Orders*		
week 3	17th Sept	*Terrain, Climate*		
week 4	24th Sept	*Resources, Materials*		
week 5	1st Oct	*Kinship order*		
week 6	19th Nov	*Economic order*		
week 7	26th Nov	*Religious order*		
week 8	3rd Dec	*Political Order*		
week 9	10th Dec	*Technical Sphere*		
week 10	17th Dec	*Legal Sphere*		
Week 11	7th Jan	*Symbolic Sphere*		
Week 12	14th Jan	*Concluding Seminar*		

EVALUATION CRITERIA	*The assignment (case study) will be given 75% of the weight. Class participation will be given 25% of the grade.*
LEARNING OUTCOMES	*1) The course intends to introduce students to an interdisciplinary approach to settlement studies, specifically the ability to identify socio-natural determining factors through a reading of morphology and spatial patterns.* *2) Students will be introduced to a conceptual framework to comprehend the diversity and affinity among settlement patterns and forms.* *3) A structured introduction (through general types) to a history of pre-modern and modern, as well as vernacular and planned settlements.*
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-20 – HUMANITIES SEM 1

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete).
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Humanities
Course Code: BARC105
Sem 1

Course Objectives:

1) The course intends to introduce students to an interdisciplinary approach to settlement studies, specifically the ability to identify social and natural determining factors through a reading of morphology and spatial patterns.

2) Students will be introduced to a conceptual framework to comprehend the diversity and affinity among settlement patterns and forms.

3) A structured introduction (through 'ideal types') to a history of pre-modern and modern, as well as vernacular and planned settlements.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Students will be able to distinguish the 'ideal types' of pre-modern and modern, as well as vernacular and planned settlements.
CO2	Students will adopt a conceptual framework to comprehend the diversity and affinity among settlement patterns and forms.
CO3	Students will be able to identify social and natural determining factors through a reading of morphology and spatial patterns.

Rubrics:

Year of Assessment: 2019-20	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 : Marks out of**	**Credits**	**Date of submission**		
FIRST YEAR - SEM 1	**Hum**		BARC 105	**50**	**50**				
Exercise: Title	Class case study presenations								
Exercise Note / Task	Present a case-study in groups in an audio-visual format								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
(A) Interpretation of Case Study	Excellent understanding of the case, ability to identify the determinants and explain them lucidly, is able to connect the case to contemporary examples	Very good understanding of the case, ability to identify the determinants and explain them well, is able to connect the case to contemporary examples	good understanding of the case, ability to identify the determinants and explain them competently	good understanding of the case, ability to identify the determinants and explain them adequately	A fair understanding of the case, ability to identify the determinants and explain them adequately	A fair understanding of the case, ability to identify the determinants	An minmal understanding of the case, somewhat able to identify determinants	An minmal understanding of the case,	Little or no understading of the case
(B) Presentation Quality as a whole	Outstanding organization of the presentation, exceptionally clear presentation combined with creative use of visual aids	Exceptionally well structured, exceptionally clear presentation combined with creative use of visual aids	Well structured, exceptionally clear presentation combined with good use of visual aids	Very Clear presentation, combined with good use of visual aids	Well organized presentation, combined with competent use of visual aids	Manage to convey the ideas adequately	Some difficulty in expressing ideas, acceptable	Difficulty in explaining	poorly constructed and unable to convey ideas
(C) Participation and conduct in class	90% attendence or more, active participation in class and excellent conduct overall	90% attendence or more, good participation in class and very good conduct overall	80% - 90% attendence, active participation in class and excellent conduct overall	80% - 90% attendence, good participation in class and very good conduct overall	70% -80% attendence, active participation in class and excellent conduct overall	70% -80% attendence, good participation in class and very good conduct overall	50% - 70% attendence	50% - 70% attendence	50% attendence or less

CO-PO mapping									
Sr. No.	**CO description**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	Students will be able to distinguish the 'ideal types' of pre-modern and modern, as well as vernacular and planned settlements.	**1**	**0**	**0**	**3**	**2**	**2**	**3**	**0**
CO2	Students will adopt a conceptual framework to comprehend the diversity and affinity among settlement patterns and forms.	**1**	**0**	**0**	**3**	**2**	**2**	**3**	**0**
CO3	Students will be able to identify social and natural determining factors through a reading of morphology and spatial patterns.	**1**	**0**	**0**	**3**	**2**	**3**	**3**	**0**

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

106							
	COURSE NAME	EVS	SEMESTER	I	CREDITS	2	
	FACULTY	Kimaya K,Minal Y, Sandeep M	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal	
	TIME	1.20pm to 3:00 am, Wednesday	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	2 hours per week	
UNIVERSITY COURSE DESCRIPTION							
PEDAGOGIC INTENT	The Environmental studies course will attempt to familiarise students with their environmental context, starting from their immediate neighbourhoods to the larger context of the city and region. It will try to create a better understanding of environmental issues and look critically at contemporary environmental approaches and practices. Through an analysis of case studies of sustainable practices and communities from around the world, it will assess various alternatives and undertake exercises in the practical application of ecological ideas in everyday life.There will be an exploration of concepts such as natural resources, the relationship between built environments and their natural setting, agro-ecological systems, traditional farming practices, self sustaining landscapes, urban biodiversity, habitats, forest foods, urban foodscapes and the role these could play in building resilient systems which would help in the conservaton of urban ecologies while also managing the problem of urban waste.The course will undertake a critical inquiry into perceptions ideologies, philosophies and movements concerning the natural environment; it will look at the politics of the environment and the environmental movements, from carbon trading to conservation, sustainability and green consumerism. It will also explore the relationship of city with food, farming and productive landscapes. It will attempt to examine the consequences of the industrialisation of the food system and its various impacts and try to the trace the roots of the impending agrarian ecological and food crisis. It will introduce participants to aspects such as the politics of food, and various movements centered around food in the city including case studies of initiatives aimed towards achieving food independence and alternative community based practices from around the world.						
METHODOLOGY	The course will be conducted like a studio with a series of hands on practical exercises and projects where students will be asked to rethink and suggest alternatives to conventional systems. Through these projects combined with neighbourhood and city walks, site visits, case studies, lectures film screenings and discussions. It will include a demonstration of ecological farming practices with a series of hands on practical exercises and projects where students will be asked to rethink and suggest alternatives to conventional systems. Through an assessment of various alternatives, it will undertake exercises to demonstrate how urban systems can be made more productive and encourage the design of production closer to our homes. It will also evaluate the immense potential of these systems if scaled up to occupy urban green space at the neighbourhood, community or city level.						

SCHEDULE	**DAY**	**DATE**	**TEACHING CONTENT OF THE DAY**	**MARKING DISTRIBUTION**	**ASSIGNMENT/DELIVERABLE**
week 1	Wednesday	10.07.2019	Introduction to the course Documentary Screening: Home	*100*	**Urban Farming**
week 2	Wednesday	17.07.2019	Group work/studio- urban farming -Introduction to Sites Prepration of Beds,Initiation of Project		
week 3	Wednesday	24.07.2019	Permaculture and Aquaponics Lecture Group work/studio- urban farming -Sowing Seeds/ Planting Basics		
week 5	Wednesday	07.08.2019	Lecture: The Story of Food Group work/studio- urban farming (composting, mulching, raised beds, drip irrigation, planting, trellises, harvesting)		
week 6	Wednesday	14.08.2019	Lecture: Urban Foodscapes Review and marking of Group work		
week 7	Wednesday	21.08.2019	Lecture: Biodiversity and Foodchains Group work/studio- urban farming (composting, mulching, raised beds, drip irrigation, planting, trellises, harvesting)		
week 8	Wednesday	28.08.2019	Lecture: Solar Cooker Making Group work/studio- urban farming (composting, mulching, raised beds, drip irrigation, planting, trellises, harvesting,		
week 9	Wednesday	04.09.2019	Harvesting, Rocket Stove and cooking		
week 10	Wednesday	11.09.2019	**Final review of Group work**		

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Environmental Studies

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Environmental Studies 1
Course Code: BARC 106
Sem 1
Year 19-20

Course Objectives:

The Environmental Studies Course will explore the concepts such as biodiversity, ecological footprint and ecosystem services and how habitat acts as an integral part of these. This course will provide a space for the student to explore the interrelationship between habitat, community, environment, and topography with a focus on principles of sustainable and environment-sensitive design along with biodiversity creation and restoration.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To explore concepts such as natural resources, the relationship between built environments and their natural setting, agro-ecological systems, traditional farming practices, self-sustaining landscapes, urban biodiversity, habitats, forest foods, urban foodscapes and the role these could play in building resilient systems.
CO2	To critically inquire the perceptions, ideologies, philosophies concerning the natural environment; from carbon trading to conservation, sustainability and green practices.
CO3	To understand nature and built, and look at architecture as a response to the bio-geo-climatic conditions.
CO4	To engage with and apply the ideas and concepts that have shaped environment-sensitive architectural thinking.

Rubrics:

Year of Assessment : 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks :**	**Exercise 01: Marks out of**	**Credits:**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
FIRST YEAR SEM 1	**EVS**		**BARC 106**	**50**	**50**	**2**	**11.09.2019**		
Exercise: Title	Urban Farming								
Exercise Note / Task	Hands-on composting, mulching, raised beds, drip irrigation, planting, trellises, harvesting on site								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Understanding of environment and their integration with other systems as well as with space	1)Complete understanding of systems 2)its integration with other system 3) its hierarchy in planned space	1)Very good understanding of systems 2)its integration with other and its position in planned space.	Good understanding of systems and its integration and its position in planned space.	Fairly good understanding of systems and its integration and its position in planned space.	1)Understanding of system is seen along with other systems 2) lacking spatial integration.	1)Lesser understanding of system is seen along with other systems 2) lacking spatial integration.	1)Poor understanding of system. 2)No understanding of integration with other systems.	Extremely poor understanding of system.	Non-Submission
Representation Technique and final submission	Logical and semantic representation	Logical representation	Good representation in all aspect	Good representation in all aspect	Fairly represented in all aspect	The drawings could be understood	Representation needed clarification	Drawings not clear enough	Non-Submission
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

COPO Mapping Setup for Sem 1

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To explore concepts such as natural resources, the relationship between built environments and their natural setting, agro-ecological systems, traditional farming practices, self-sustaining landscapes, urban biodiversity, habitats, forest foods, urban foodscapes and the role these could play in building resilient systems.	3	2	2	1	1	1	1	1
CO2	To critically inquire the perceptions, ideologies, philosophies concerning the natural environment; from carbon trading to conservation, sustainability and green practices.	3	2	2	1	1	1	1	1
CO3	To understand nature and built, and look at architecture as a response to the bio-geo-climatic conditions.	1	2	2	2	1	1	3	2
CO4	To engage with and apply the ideas and concepts that have shaped environment-sensitive architectural thinking.	1	1	3	1	2	2	3	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 107, 107 (4CP-ARD I , 2 CP-Visual Studies)

COURSE NAME	Architectural Representation & Detailing I (ARD I + Visual studies)	SEMESTER	1	CREDITS	6=4+2
FACULTY	SANDEEP, MAMTA, MISBAH, SONAL, SANAEYA, ANKUSH, PRATYUSHA, KAUSHIK, MANSI	SESSIONAL MARKS	150	SCHEME OF EXAMINATION	Internal
TIME	12 to 12:50 & 1:20 to 3pm & 9:40 to 11:20,	TEACHING HOURS	90 HOURS	TIME REQUIRED OUTSIDE OF CLASS	Some Friday classes will require the students to go outside for sketching, 1hour a week,.

BARC 107

COURSE NAME	Architectural Representation & Detailing I	SEMESTER	1	CREDITS	4
FACULTY	SANDEEP, MAMTA, MISBAH, SONAL, SANAEYA, ANKUSH, PRATYUSHA,	SESSIONAL MARKS	75% of 150	SCHEME OF EXAMINATION	Internal
TIME	12 to 12:50 & 1:20 to 3pm	TEACHING HOURS	90 HOURS	TIME REQUIRED OUTSIDE OF CLASS	Some Friday classes will require the students to go outside for sketching,

what — **UNIVERSITY COURSE DESCRIPTION**

Graphics: Studio work culture, pencils, instruments, table, etc. Plane geometry and solid geometry, orthography, drawing and building thicknesses and hollows; plans, sections, elevations.
Freehand: Memory, left brain creativity.
Workshop: Building skills, Studio work culture; instruments, tabletop; cutting, joining, shaping materials amd media installations assembly.

why — **PEDAGOGIC INTENT**

Developing the ability to visualize and learn hand-drafting skills.

how — **METHOD**

The course is an introduction to the technical tools for representation. It is a working studio all course work will be completed in studio hours. The course will cover orthographic projection, axonometric, isometric and perspective projections as amethod to draw and representspace. Themode of teaching will be through a combination of lectures and studio. The assignments will introduce variations into drawing the objects/spaces so that each student generates solutions to their own challenges.

when — **SCHEDULE**

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
week 1	Wednesday	28-08-2019	Introduction to drafting tools, Line weights, Lettering, Sheet Composition		Lines and Lettering Sheet (Assignment)
week 2	Wednesday	04-09-2019	Introduction to Orthographic Projection	10	Lines and Lettering Sheet (Submission) Tilted Cube (Assignment)
week 3	Wednesday	11-09-2019	Orthographic Projection to be continued	10	Tilted Cube (Submission) Tilted and Rotated Cylinder (Assignment)
week 4	Wednesday	18-09-2019	Orthographic Projection: True Lengths	10	Tilted and Rotated Cylinder (Submission) Truncated Pyramid (Assignment)
week 5	Wednesday	25-09-2019	Orthographic Projection: True Lengths to be continued		T. P. Open Plan & Model
week 6	Wednesday	02-10-2019	Orthographic Projection: Intersection of Solids	10	T. P. Open Plan & Model (Submission) Intersection of Solids (Assignment)
week 7	Wednesday	09-10-2019	Orthographic Projection: Intersection of Solids to be continued		Working Studio
week 8	Wednesday	16-10-2019	Architectural Section	20	Intersection of Solids (Submission) Section through a given plan (Assignment)
week 9	Wednesday	23-10-2019	Axonometric: Staircase (5 types)	20	Section through a given plan (Submission) Axonometric of a Staircase (Assignment)
week 10	Wednesday	30-10-2019	Architectural Model through plans and sections (Portfolio)	32.5	Submission
week 11	Wednesday	06-11-2019	Architectural Model through plans and sections & Submission of Redo Sheets	20	Architectural Model (Submission) Redo Sheets (Submission)

LEARNING OUTCOMES

The students should, by the end of the course, be able to learn how to use the instruments and tools for drafting and model making, be able to imagine and represent a 3 dimensional object / space on paper through the taught methods.
Students will be evaluated based on their ability to demonstrate drawing and making skills, precision of drafting, workmanship on models, ability to question the taught method and devise alternative methods of solving the same problem.

READING LIST

BARC 107

COURSE NAME	Visual Studies I	SEMESTER	1	CREDITS	2
FACULTY	SONAL, KAUSHIK MUKHOPADHYAY, MAMTA, ASEEM, MISBAH	SESSIONAL MARKS	25% of 150	SCHEME OF EXAMINATION	Internal
TIME	12 to 12:50 & 1:20 to 3pm & 9:40 to 11:20,	TEACHING HOURS	90 HOURS	TIME REQUIRED OUTSIDE OF CLASS	1 HOUR A WEEK

BARC 107

COURSE NAME	Visual Studies I	SEMESTER	1	CREDITS	2
FACULTY	SONAL, KAUSHIK MUKHOPADHYAY, MAMTA, ASEEM, MISBAH	SESSIONAL MARKS	25% of 150	SCHEME OF EXAMINATION	Internal
TIME	12 to 12:50 & 1:20 to 3pm & 9:40 to 11:20,	TEACHING HOURS	90 HOURS	TIME REQUIRED OUTSIDE OF CLASS	1 HOUR A WEEK

what — **UNIVERSITY COURSE DESCRIPTION**

Graphics: Studio work culture, pencils, instruments, table, etc. Plane geometry and solid geometry, orthography, drawing and building thicknesses and hollows; plans, sections, elevations.
Freehand: Memory, left brain creativity.

why — **PEDAGOGIC INTENT**

Developing the ability to visualize and learn hand-drafting skills.

how — **METHOD**

The classes will consist of students presentations, discussions on various concepts and slide presentations by faculty.

when — **SCHEDULE**

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
week 1	Friday	30-08-2019	Screening - Anime Movie		
week 2	Friday	06-09-2019	Outdoor sketching exercises	12.5	Students Presentation20 students - 2 groups
week 3	Friday	13-09-2019	Still Life sketching		Lecture Presentation
week 4	Friday	20-09-2019	Figure Sketching		Studio
week 5	Friday	27-09-2019	Figure Sketching		Studio
week 6	Friday	04-10-2019	Figure Sketching	12.5	Students Presentation 20 students - 2 groups
week 7	Friday	11-10-2019	Making narrative drawings		Studio
week 8	Friday	25-10-2019	Making narrative drawings	12.5	Students Presentation20 students - 2 groups

LEARNING OUTCOMES

Observation and drawing skills.
Students will be marked on their presentations, for their engagement and effort and also separately (5marks) for the participation in class discussions.

READING LIST

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Representation and Detailing I*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete)
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students, the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Representation and Detailing 1

Course Code: BARC 107 **Sem I** **First Year**

Course Objectives:
This term the course moves beyond the problems of representing space and form through conventional architectural drawing techniques into drawing as an operative or constructive act. It exposes students to techniques of constructing and representing complex curved forms using techniques of orthographic projections, and the making of physical models.

Introduce critical thinking around techniques of representation in art and architecture in the contemporary world. Expose students to a history of questions and methods of representation. Draw parallels between ways of seeing, systems of production, a history of culture and forms of representation and expression.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understand the techniques and methods for a comprehensive architectural representation.
CO2	Enable students to understand relationships between the choice of medium, also use of critical or expressive intents, in the making and form of visual representations.
CO3	Enable students to evaluate the architectural representation as a method of investigating architectural design in society.
CO4	Enable students to create, and manipulate three dimensional form and space by use the tools of representation.
CO5	Facilitate students to create orthographic projections, axonometric and isometric tools of representation of architecture.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject: Architectural Representation and Detailing 1**	**University Subject Code**	**Sessional Marks:**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
FIRST YEAR - SEM 1		**107**	**75% of 150 (Internal)**		**4**	**Multiple**		
Exercise: Title	TBD							
Exercise Note / Task	-							
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Ability to understand, follow and apply an appropriate/ correct method of drawingg	Exceptional understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been employed correctly. Adequate no. of views/ details have been drafted to understand the object holistically. No duplicate methods have been used to achieve the final result. Every step of the method employed has	Outstanding understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been employed correctly. Adequate no. of views/ details have been drafted to understand the object holistically. No duplicate methods have been used to	Sophisticated understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been attempted well. Adequate no. of views/ details have been drafted to understand the object holistically. No duplicate methods	Excellent understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been attempted well. No. of views/ details employed are good enough to understand the object holistically. No duplicate methods have been used to achieve the final result. Most of the steps of the method has been employed in a sequential manner	Very good understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been attempted well. No. of views/ details employed are good enough to understand the object holistically. No duplicate methods have been used to achieve the final result. Most of the steps of the method has been employed in a sequential manner	Good understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been attempted satisfactorily. No. of views/ details employed are satisfactory to understand the object	Fair understanding of method is displayed through the drawing. The technique of parallel projection has not been fully understood. No. of views/ details employed are inadequate. No duplicate methods have been used to achieve the final result. Not all steps of the method have been employed	Satisfactory understanding of method is displayed through the drawing. The technique of parallel projection has not been employed. No. of views/ details employed are inadequate. Duplicate methods have been used to achieve the final result. Lack of sequential methodical understanding	Poor understanding of method is displayed through the drawing. The technique of parallel projection used is incorrect. Lack of no. of views/ details employed are good enough to understand the object holistically. Duplicate methods have been used to achieve the final result. Lack of sequential

	followed a sequential process of arrival and is contingent to the next step.	achieve the final result. Every step of the method employed has followed a sequential process of arrival and is contingent to the next step.	have been used to achieve the final result. Most of the steps of the method has been employed in a sequential manner			holistically. No duplicate methods have been used to achieve the final result. Not all steps of the method have been employed in a sequential manner.	in a sequential manner.		methodical understanding. Lack of effort in rigour of the drawing.
Representation Technique and final submission	All the criteria below have been exceptionally employed with great rigour, precision and neatness. The presentation is self-explanatory and shows an exceptional level of skill in arranging and organisation.	Most of the criteria below have been exceptionally employed with great rigour, precision and neatness. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organisation.	Most of the criteria below have been employed with great rigour, precision and neatness. The presentation is self-explanatory and shows an sophisticated level of skill in arranging and organisation.	Most of the criteria below have been employed with rigour, precision and good neatness. The presentation is self-explanatory and shows an excellent of skill in arranging and organisation.	Most of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a very good level of skill in arranging and organization.consistently of very good quality.	Not all of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a good level of skill in arranging and organisation.	Not all of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a fair level of skill in arranging and organisation.	Not all of the criteria below have been employed. Satisfactory levels of rigour, precision and neatness. The presentation is not self-explanatary and requires to achieve a satisfactory level of skill in arranging and organisation.	Most of the criteria below have not been employed. Lack rigour, precision and netaness. The presentation lacks clarity and shows poor level of skill in arranging and organisation.
Line quality (line types, line weights; these include both drafted lines and free-hand lines, object lines, section lines, elevation lines, centre lines, hidden lines, dotted/ dashed line, hatches, material indication)									
Annotation lines (line type, line weight, arrow head, these include - guide lines, construction lines, dimension lines, extension lines, leaders, break line, border lines, cutting-plane line/ arrow,									

slopes and gradations)									
Annotation text (Size, Style - Template texts, labelling, lettering quality, level demarcation, dimensioning, call-outs)									
Sheet composition (template design, sheet layout, no. of details to holistically explain the object)									
Sheet information (north sign, graphic scale, notes, student's name, roll no., sheet title, drawing unit dimension note, legends, graphic symbols)									
Model Making and Analysis	The models display an enthusiasm and effort to take on challenging and difficult levels of resolution. They break new ground in terms of their innovation and inventiveness and effort. They are exquisitely constructed, with a innovative and sophisticated understandin g of material, structure, technique.	The models display an enthusiasm and effort to take on challenging levels of resolution. They are innovative and inventive and display outstanding effort. They are excellently constructed, with a clear understandi ng of material, structure, technique.	The models display outstanding effort and rigour. They are excellently constructed, with a clear understanding of material, structure, technique.	The models display excellent effort and rigour. They are well constructed, with a clear understanding of material, structure, technique.	The models display a very good effort and rigour. They are well constructed, with a clear understanding of material, structure, technique.	The models display a good effort and rigour. They are well constructe d, with a clear understan ding of material, structure, technique.	The models display a fair amount effort and rigour. They are constructe d, with a fair understand ing of material, structure, technique.	The models display a satisfactory amount effort and rigour. They are constructed, with a satisfactory understandi ng of material, structure, technique.	The models display a lack of effort or rigour. They are poorly constructe d, with no understand ing of material, structure, technique.
Time management and participation in Studio	100 %	99% -95%	94-91%	90-85%	84-81%	80-75%	74-70%	69-60%	Below 60%

Year & Sem	**Subject: Visual Studies 1**	**University Subject Code**	**Sessional Marks:**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
FIRST YEAR - SEM 1		**107**	**25 % of 150 (Internal)**		**2**	**Multiple**		
Exercise: Title	TBD							
Exercise Note / Task	-							

Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Understanding of visual concepts and their reflection through drawing/sketching	Exceptional understanding of ways of analysing form and developing innovative methods of representation apart from the given sketching method.	Outstanding understanding of method is displayed through the drawing.	Sophisticated understanding of method is displayed through the drawing.	Excellent understanding of method is displayed through the drawing.	Very good understanding of method is displayed through the drawing.	Good understanding of method is displayed through the drawing.	Fair understanding of method is displayed through the drawing.	Satisfactory understanding of method is displayed through the drawing.	Poor understanding of method is displayed through the drawing. Lack of effort in rigour of the drawing.
Representation Technique and final submission	All the criteria below exceptionally employed with great rigour, precision and neatness. The presentation is self-explanatory and reveals an exceptional level of skill in arranging and organisation through visual communication, apart from sketching	Most of the criteria below have been exceptionally employed with great rigour, precision and neatness. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organisation.	Most of the criteria below have been employed with great rigour, precision and neatness. The presentation is self-explanatory and shows an sophisticated level of skill in arranging and organisation.	Most of the criteria below have been employed with rigour, precision and good neatness. The presentation is self-explanatory and shows an excellent of skill in arranging and organisation.	Most of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a very good level of skill in arranging and organization.consistently of very good quality.	Not all of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a good level of skill in arranging and organisation.	Not all of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a fair level of skill in arranging and organisation.	Not all of the criteria below have been employed. Satisfactory levels of rigour, precision and neatness. The presentation is not self-explanatory and requires to achieve a satisfactory level of skill in arranging and organisation.	Most of the criteria below have not been employed. Lack rigour, precision and netaness. The presentation lacks clarity and shows poor level of skill in arranging and organisation.
Time management	100 %	99% -95%	94-91%	90-85%	84-81%	80-75%	74-70%	69-60%	Below 60%

and participation in Studio									

COPO Mapping Setup for Sem 1, 2019-2020

CO-PO mapping for a course of B. Arch First Year Architectural Representation and Detailing I									
Sr. No.	CO description	PO1	PO2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	Understand the techniques and methods for architectural representation.	2	3	3	0	1	3	3	2
CO2	Enable students to understand relationships between the choice of medium, also use of critical or expressive intents, in the making and form of visual representations.	3	2	3	0	0	0	0	2
CO3	Enable students to evaluate the architectural representation as a method of investigating architectural design in society.	3	2	3	0	0	0	0	2
CO4	Enable students to create, and manipulate three dimensional form and space by use the tools of representation.	2	3	3	3	0	0	2	3
CO5	Facilitate students to create orthographic projections, axonometric and isometric tools of representation of architecture.	2	1	3	0	0	0	3	0

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 120	COURSE NAME	College Projects (Building Tech-nology + Architectural Theory)	SEMESTER	One	CREDITS	6 (split across the courses of B.Tech (2CP), Architectural Theory (1CP) and Architectural Design (3CP)
	FACULTY	B.Tech (Kaushik, Apurva P., George, Shirish, Sonal)+ Architec-tural Theory (Kaushik, Sonal)	SESSIONAL MARKS	100 (30 (B.Tech) + 20 (AT) + 50(AD))	SCHEME OF EXAMINATION	Internal
	TIME	B.Tech - MONDAY, 12:00pm to 3:00 pm Architectural Theory – FRIDAY, 12:00 pm to 12:50 pm	TEACHING HOURS	4 hours	TIME REQUIRED OUTSIDE OF CLASS	4hours

College Projects Course 1 - Building Technology

BARC 120	COURSE NAME	College Projects (Building Tech-nology)	SEMESTER	One	CREDITS	2CP + 1 TOS
	FACULTY	Kaushik, George, Sonal, Apurva P. and Shirish	SESSIONAL MARKS	30 + 20 (TOS)	SCHEME OF EXAMINATION	Internal
	TIME	B.Tech - MONDAY, 12:00pm to 3:00 pm	TEACHING HOURS	3 Hours	TIME REQUIRED OUTSIDE OF CLASS	3 hours
PEDAGOGIC INTENT	The course is designed to help the students develop an intuitive understanding of various structural systems and the behavior of material. To do this, the studio focuses on the follow-ing three aspects of building systems: Structure, Material & Systems. Although it is difficult to isolate one from the others, we try and design projects such that one of the three aspects comes into focus through the course of the studio. This enables us to engage the students into looking at a particular aspect of structural systems.					
METHOD	The year is designed as a unit. Each project looks at a different aspect of the structure & structural systems and each successive project is increasing in scale. The project brief sets out a 'problem' designed around Structural systems or Material properties. The course thereby borrows a credit from the Theory and Design of Structures course to facilitate the process and validate the outcome. The students are required to solve the problem through several built iterations or built solutions. The learning is therefore in the making of the struc-ture. The studio sessions focus on the strength & weakness of the structural solutions & de-sign aspects of the same.					

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Monday		Introduction to the project 1		
week 2	Monday		R-1: Review of Project 1: Structural System @ 3' span		
week 3	Monday		R-2: Review of Project 1: Structural System @ 9' span		
week 4	Monday		Working Studio: : Structural System @ 9' span		
week 5	Monday		Final Review of Project 1		
week 6	Monday		Introduction to project 2		
week 7	Monday		R-1: Internal Review for Stage 1: Conceptual Ideas and materials		
week 8	Monday		R-2: Internal Review for Stage 2: Proto-type working/ testing at the beach		
week 9	Monday		Working Studio		
week 10	Monday		Final Review of Project 2		

EVALUATION CRITERIA	*The students will be evaluated in groups, based on the method of working, rigour and progress as observed within each studio session. The students will be marked on the follwoing criteria: A. Idea development B. Progress in studio work C. Method/s of working or systems of building D. Rigour and engagement with the studio.*
LEARNING OUTCOMES	*The course is designed to help the students develop and intuitive understanding of various structural systems and the behavior of material. They will also learn skills to work with differ-ent material with hand and engagement with different building processes using tools.*
READING LIST	Some of the Reference works we use frequently in class include: 1. Theo Jannsen – wind sculptures 2. Works of Shigeru Ban 3. Works of Kengo Kuma 4. Rube Goldberg's machines 5. Details by Renzo Piano & Renzo Piano Building Workshop 6. Works of Richard Rogers Any other structural, construction details as required in the studio.

College Projects Course 2 - Architecture Theory

BARC 120	COURSE NAME	College Projects (Architecture Theory)	SEMESTER	One	CREDITS	1CP
	FACULTY	Kaushik Mukhopadhyay and Sonal Sundararajan, Aseem and Misbah Hararwala	SESSIONAL MARKS	20	SCHEME OF EXAMINATION	Internal
	TIME	FRIDAY, 12:00 pm to 12:50 pm	TEACHING HOURS	50 mins	TIME REQUIRED OUTSIDE OF CLASS	1 hour
PEDAGOGIC INTENT	The course intent is to sharpen a students critical faculty - to find tools for analysis and reflection.					
METHOD	The classes will consist of students presentations, discussions on various concepts and slide presentations by faculty.					

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Friday	30-Aug-19	Introduction to the course.		
week 2	Friday	5-Sep-19	What does architecture have to do with class/gender?		
week 3	Friday	13-Sep-19	What does architecture have to do with class/gender?		
week 4	Friday	20-Sep-19	What does architecture have to do with place/history?		
week 5	Friday	29-Sep-19	What does architecture have to do with nature/order?		
week 6	Friday	4-Oct-19	What does architecture have to do with community/behaviour?		
week 7	Friday	11-Oct-19	What does architecture have to do with community/behaviour?		
week 8	Friday	11-Oct-19	Students will be marked on their presentations, for their engagement and effort and also separately (5marks) for the participation in class discussions.		

EVALUATION CRITERIA	*The students will be evaluated in groups, based on the method of working, rigour and progress as observed within each studio session. The students will be marked on the follwoing criteria: A. Idea development B. Progress in studio work C. Method/s of working or systems of building D. Rigour and engagement with the studio.*
LEARNING OUTCOMES	*The course is designed to help the students develop and intuitive understanding of various structural systems and the behavior of material. They will also learn skills to work with differ-ent material with hand and engagement with different building processes using tools.*
READING LIST	Keywords, Raymond Williams Critical terms in Art History Edited by Robert S. Nelson And Richard Shiff, Ways of seeing John Berger.

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *College Projects ((Building Tech-nology + Architectural Theory + Architecture Design)*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete)
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course 1: Building Technology (2CP + 1 TOS)
Course Code: BARC 120 Sem 1 First Year

Course Objectives:
The course is designed to help the students develop an intuitive understanding of various structural systems and the behavior of material. To do this, the studio focuses on the following three aspects of building systems: Structure, Material & Systems. Although it is difficult to isolate one from the others, we try and design projects such that one of the three aspects comes into focus through the course of the studio. This enables us to engage the students into looking at a particular aspect of structural systems. The year is designed as a unit. Each project looks at a different aspect of the structure & structural systems and each successive project is increasing in scale.
The project brief sets out a 'problem' designed around Structural systems or Material prop-erties. The students are required to solve the problem through several built iterations or built solutions. The learning is therefore in the making of the structure and to facilitate this aca-demically one credit of Theory and Design of Structures has been assigned to the course. The studio sessions focus on the strength & weakness of the structural solutions & design aspects of the same.

Course 2: Architecture Theory (1 CP)
Course Code: BARC 120 Sem 1 First Year

Course Objectives:
The course intent is to sharpen a student's critical faculty - to find tools for analysis and reflection.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To enable students to recognize, conceptualize, ideate, and iterate structural systems as a part of design
CO2	To develop an analytical understanding of structural systems and validating the same through physical testing/ evaluation
CO3	To develop an intuitive understanding of materials, their inherent properties, and their mechanical behaviour in structural systems. To enable the students to work with various tools and instrument in order to shape and handle the assigned material in their designs

CO4	To critically analyze the spaces and objects around them that have shaped the world that surrounds them and to evaluate them as they emerge from socio-economic structures. To apply these with respect to how they locate and see themselves in the world
CO5	To evaluate these spaces and objects as acts of design that embody ideas and develop a consciousness about their own acts of design.

Rubrics for College Projects Course 1 (Building Technology):

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject: Architectural Building Construction and Materials**	**University Subject Code**	**Sessional Marks:**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**	
FIRST YEAR - SEM 1		**120**	**30 + 20 (TOS)**		**2CP + 1 TOS**	**Multiple**			
Exercise: Title	Spanning Systems								
Exercise Note / Task	The year is designed as a unit. Each project looks at a different aspect of the structure & structural systems and each successive project is increasing in scale. The project brief sets out a ‘problem’ designed around Structural systems or Material prop-erties. The students are required to solve the problem through several built iterations or built solutions. The learning is therefore in the making of the structure and to facilitate this aca-demically one credit of Theory and Design of Structures has been assigned to the course. The studio sessions focus on the strength & weakness of the structural solutions & design aspects of the same.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Concept and Idea Development	Exceptional in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously recognising the importance and evaluating the form of the built.	Outstanding in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously recognising the importance and evaluating the form of the built.	Excellent in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously recognising the importance and evaluating the form of the built.	Sophisticated in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously recognising the importance and evaluating the form of the built.	Very Good in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously designing an adequate form for the built	Good in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously designing an adequate form for the built	Satisfactory in showcasing an intuitive understanding of structural systems using the assigned material, however not recognising the importance of form	Fair in showcasing an intuitive understanding of structural systems using the assigned material, however not focused on form entirely	Poor understanding of mechanical behaviour of structural systems

Progress in studio work	Has shown exceptional progress in design development from one stage to the other.	Has shown outstanding progress in design development from one stage to the other.	Has shown excellent progress in design development from one stage to the other.	Has shown sophisticated progress in design development from one stage to the other.	Has shown very good progress in design developme nt from one stage to the other.	Has shown good progress in design developme nt from one stage to the other.	Has shown satisfactory progress in design developme nt from one stage to the other.	Has shown fair progress in design developme nt from one stage to the other.	Has shown poor progress in design developme nt from one stage to the other.
Method/s of working or systems of building	The system of building is exceptionally resolved and break new ground in terms of innovations, inventiveness, and effort.	The system of building is outstandingly resolved and break new ground in terms of innovations, inventiveness , and effort.	The system of building is excellently resolved and break new ground in terms of innovations, inventiveness, and effort.	The system of building is sophisticatedl y resolved and display rigour and effort..	The system of building has very good resolution and display rigour and effort.	The system of building has good resolution and display rigour and effort..	The system of building has satisfactory resolution and display rigour and effort.	The system of building has fair resolution and display rigour and effort.	Poor understandi ng of structural systems,
Rigour and engagement with the studio.	The structures are exquisitely constructed, with an innovative and exceptionally understanding of material, structure, technique.	The structures are innovative, inventive and display outstanding effort. They are excellently constructed, with a clear understandin g of material, structure, technique.	The structures are excellently constructed, with a clear understanding of material, structure, technique.	The structures are well constructed, with a clear understandin g of material, structure, technique	The structures are well constructe d, with a clear understand ing of material, structure, technique.	The structures are well constructed , with a clear understandi ng of material, structure, technique	The structures are constructed , with a satisfactory understandi ng of material, structure, technique.	The structures are constructed , with a fair understandi ng of material, structure, technique.	lack of rigour and effort. Laxity in understandi ng material, structure and technique.
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participati on	75% attendance and good participatio n	75% attendance and Fair participatio n	75% attendance and average participatio n	Poor participatio n and absence

Rubrics for College Projects Course 2 (Architectural Theory) :

Year of Assessment: 2019 - 2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks: max 100**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
FIRST YEAR - SEM1	**College Projects (Architectura l Theory)**		**BARC 120**	**20**		2 College Projects	Every week one group presents		
Exercise: Title	CLASS PRESENTATIONS								
Exercise Note / Task	Groups of 10 students each will make a presentation in every session on the following- What does architecture have to do with 1. class 2. gender 3. place 4. history 5. nature 6 order 7. Community 8. Behaviour								

Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactor y**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Class Presentatio n	1) Extremely articulate in framing the area for inquiry. 2) Very clear structure for presentation. 3) Well researched	1) Very articulate in framing the area for inquiry. 2) Clear structure for presentation. 3) Well researched	1)Clear and Articulate in framing the area for inquiry. 2) Well researched structure for presentation.	1) There is clarity in the area of inquiry 2) Research and structure for presentatio n is fairly good.	1) The area of inquiry is fairly good 2) Research and structure for presentatio n can be better.	1) The area of inquiry is good 2) Research and structure for presentatio n is fair.	1) There is clarity in the area of inquiry 2) Research and structure for presentation is found lacking	1)There is potential for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Non submissio n
Attendance and Participation	Attends less than 95% of total classes	Attends less than 90% of total classes	Attends less than 85 % of total classes	Attends less than 75 % of total classes	Attends less than 70 % of total classes	Attends less than 65 % of total classes	Attends less than 60 % of total classes	Attends less than 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 1, 2019-2020

CO-PO mapping for a course of B. Arch First Year College Projects									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To enable students to recognize, conceptualize, ideate, and iterate structural systems as a part of design	1	3	3	0	3	3	3	0
CO2	To develop an analytical understanding of structural systems and validating the same through physical testing/ evaluation	1	3	3	0	0	1	3	2
CO3	To develop an intuitive understanding of materials, their inherent properties, and their mechanical behaviour in structural systems. To enable the students to work with various tools and instrument in order to shape and handle the	0	2	3	0	0	1	3	0

	assigned material in their designs								
CO4	To critically analyze the spaces and objects around them that have shaped the world that surrounds them and to evaluate them as they emerge from socio-economic structures. To apply these with respect to how they locate and see themselves in the world	2	0	0	3	3	3	3	1
CO5	To evaluate these spaces and objects as acts of design that embody ideas and develop a consciousness about their own acts of design.	2	0	0	3	3	3	3	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

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Semester 2

Scheme of Teaching and Examinations

Scheme of Teaching and Examinations
Bachelor of Architecture (B. Arch.) Semester II

	Semester II Exam conducted by individual colleges	Teaching Scheme		Credits		
Sub. No.	COURSES	Lecture	Studio	Theory	Studio	Total
201	Architectural Design		4		4	4
202	Allied Design Studio		4		4	4
203	Architectural Building Construction & Materials	2	3	2	3	5
204	Theory & Design of Structures	3		3		3
205	Humanities	3		3		3
206	Environmental Studies	2		2		2
207	Architectural Representation & Detailing		3 +3		6	6
220	College projects		6		6	6
221	Elective		3		3	3
	Total	10	26	10	26	36

	Semester II Exam Exam conducted by individual colleges	Examination Scheme			
Sub. No.	SUBJECTS	Theory (paper)	Sessional Work	External viva	Total
201	Architectural Design Studio		150		150
202	Allied Design Studio		150		150
203	Architectural Building Construction	70	80		150
204	Theory & Design of Structures	50	50		100
205	Humanities	50	50		100
206	Environmental Studies		50		50
207	Architectural Representation & Detailing		100+50		150
220	College projects		100		100
221	Elective		50		50
	Total				1000

Notes: Each period shall be of 50 minutes duration and each semester shall consist of 90 days of teaching programme.

The colleges are required to arrange the time table per semester as per the teaching scheme prescribed.

Semester 2

Semester 2

Time-Table

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
8.00 - 8.50	**Allied Design**		**Architectural Design**		**Architectural Representation and Detailing**		**Theory and Design of Structures**		**Architectural Design**			
	202	*4*	*201*	*2 of 4 / 2 CP*	*207*	*4 of 6*	*204*	*2 of 3*	*101*	*2 of 4 AD / 1 CP*		
8.50 - 9.40	Kausik	Mansi	Ainsley	Amisha	Sandeep	Mamta	Rajitha	Neeraj	Ainsley	Vandana		
	Sonal	Apurva T	Shraddha	Nikhil	Misbah	Sonal			Shraddha	NNnikhil		
9.40 - 10.30	Misbah	Kruti		Quaid	Neeraj	Shail	**Architectural Building Construction and Detailing**		Saumya	Rika		
	Pratyusha		Rohit M	Rika			103	5		TA -Riddhesh		
10.30 - 11.20			Ankush	TA -Smruti, Aishwarya			Mamta	Ainsley				
			Misbah	Sonal Sancheti			Rutika	Neeraj, Shail			Prajakta	
11.20 - 12.00	B R E A K											
12.00-12.50	**Building Technology (College Project)**		**Environmental Studies**		**Encounter**				**Architectural Theory (College Project)**			
	220	*2 CP + 1 TOS*	*106*	*2 EVS / 1 HU*					120	1 CP		
12.50 - 1.20	L U N C H B R E A K											
1.20 - 2.10	Kaushik	George	Sandeep	Minal	History (Humanities)				**Visual Studies (ARD)**			
	Shreya	Hussain		Kimaya	205	2 out of 3			120	2 of 6 ARD		
2.10 - 3.00	Apurva P	Sonal, Advait			Ginella	Sarah			Kausik	Mansi		
									Pratyusha	Misbah, Pratyusha		

BARC 201	**COURSE NAME**	**ARCHITECTURAL DESIGN**	**SEMESTER**	2	**CREDITS**	**Tuesday (2AD + 2CP) Friday (2AD+1CP)= 7**
	FACULTY	Ainsley, Nikhil, Shraddha, Amisha, Rohit M, Ankush, Misbah, Sonal San. TA: Smriti, Aishwarya	**SESSIONAL MARKS**	**150 ARCH DESIGN + 50 COLLEGE PROJECTS**	**SCHEME OF EXAMINATION**	**INTERNAL**
	TIME	**TUESDAYS 8-11:20 AND FRIDAYS 8-10:30**	**TEACHING HOURS**	60	**TIME REQUIRED OUTSIDE OF CLASS**	**4 hours a week**

UNIVERSITY COURSE DESCRIPTION	*Understanding the human body in space Activities and their relation ship with spaces Scales and proportions* *Developing a language vocabulary, visualization Exposure to architecture,* *Exposure to architects and their works* *Buildings, practices, site visits, meeting architects Sessional work based on the basis of above.*
PEDAGOGIC INTENT	The primary intent of the studio is to ensure that students **internalise the fundamentals of space-making** , the **assembly of architectural elements** for such space-making and the relationship between **space and the activity** it hosts. They must also be able to understand how the act of space-making changes with scale - ranging from the **domestic to the monumental** . The students are also encouraged to **absorb** things from **outside of architecture** - poetry, film, paintings, folklore, performance arts like dance, theatre, etc. The studio **does not impose a strictly formal program** but instead encourages the students to derive the program based on their interpretation of poetry, paintings, etc.
METHOD	The studio exercises laid out a frameork for individual understanding and learning- beginning with analysis of architectural objects and then, of exploration and play with architectural elements. The studios were structured learning sessions, with each session introducing students to a new tool or aspect through lectures and discussions on their individual works.

SCHEDULE		**DATE**	**TEACHING CONTENT OF THE DAY**		**MARKS**	**ASSIGNMENT/ DELIVERABLE**
		Tuesday 3 Dec	Introduction of the Haiku			
		Friday 6 Dec	Discussion + Working Studio			

		Tuesday 10 Dec	**The final iteration of 2D interpretation (2 A4s)** The students must also present the previous iterations of their 2D compositions so that a clear design process is observed. The choice of iteration, to take forward to the next stage shall be based on the ability of the iteration to represent the essence of the Haiku with an appropriate level of abstraction (such that the manifestations are not literal interpretations of the Haiku)		The final iteration of 2D interpretation - on 2 A4s + Students are required to bring modelling material (soap) to class
		FRIDAY 13 dec	Haiku Jury - The students are then introduced to the next stage of the studio i.e. manifesting their 2D compositions in the form of a 3D volume. At this point the students are introduced to certain constraints. The following shall be the constraints introduced: 1. The material of the model 2. Method of modelling (reductive vs additive) 3. Volume of the model (constraints on the extent of the model - 20cm x 30cm x 20cm (suggested)		
		Friday 3 Jan	Discussion on the Reductive model (first cut) + faculty comments		First Cut of Reductive Model
		Tuesday 6 JAN	Discussion on the Reductive model (second cut)		Second Cut of Reductive Model Review of Site Models & Site Drawings
		FRIDAY 10 JAN	**Review of first model (Reductive)** **+ Introduction of second model** **(Additive)**	5	**Final Cut of First Model (Reductive) + Materials for Additive model + Review of Vacation Assignment**
		Tuesday 14 Jan	The second model - first cut		

			Friday 17 Jan	The second model - Second cut			
			Tuesday 28 Jan	Working Studio: Drawings of the Model			Drawings of the Model
			Friday 31 Jan	Working Studio			
			TUESDAY 4 FEB	**Mid Term Jury**		20	**Selected Model + Drawings of the Final Model**
			Friday 7 Feb	Introduction of Site and Generation of Program. The students are introduced to the respective intervention sites in Ahmedabad. They are now required to generate their own programs for the intervention based on their learnings from the site. The programs shall not be strictly functional. They shall be oriented towards congregational/communal activity, suitable for each site. The programs shall be finalised upon discussion with faculty.			
			Tuesday 11 Feb	Class discussion with sticky notes of the kinds of programs possible			
			Friday 14 Feb	Working Studio - Site Analysis			
			Tuesday 18 Feb	Working Studio - Site Analysis			
			FRIDAY 21 FEB	**REVIEW OF SITE ANALYSIS** Introduction of next stage i.e. Retrofitting/adapting/ transforming the Final 3D composition to the Site		25	**Final Drawing**
			Tuesday 25 Feb	Working Studio - Exploration of intervention on site, understanding the language of the chosen additive/reductive model			Models
			Friday 28 Feb	Working Studio - Exploration of intervention on site, understanding language of chosen additive/reductive model			Models

			Tuesday 3 March	Working Studio - Exploration of intervention on site, understanding the language of chosen additive/reductive model, developing spaces for programs			Models, Drawings on tracings
			FRIDAY 6 MARCH	**PRE FINAL JURY**		25	**Model + Plans + Intervention in Site Sections**
			TUESDAY 10 MARCH	HOLI			
			Friday 13 March	Working Studio - Emphasis on Design Development - Circulation - Anthropometric - Activity Development - Scale			
			Tuesday 17 March	Working Studio - Emphasis on Design Development - Circulation - Anthropometric - Activity Development - Scale			
			Friday 20 March	Working Studio - Emphasis on Design Development - Circulation - Anthropometric - Activity Development - Scale			
			Tuesday 24 March	Working Studio - Discussion			
			Tuesday 31 MarcH	Working Studio - Discussion			
			Friday 3 April	Discussion - Draft PPT			
			TUESDAY 7 APRIL	**FINAL JURY**		75 (Arch design)	**Online Pdf Submission with Process Model Images + Drawings + Final Model + Drawings**
						+ 50 (College Projects)	**Resolution of material and structure**
LEARNING OUTCOMES			*Achieve an understanding of formal qualities, relationship between the body and form/ space, scale, Skills of drawing, making, working with different materials. T*				
READING LIST							

CO-PO mapped syllabi of B.Arch Course 2019--2020– *Architectural Design*
Semester 2

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
1. To enable the student to script one's own project
2. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
3. To enable the student to extract and the abstract from the experiential and center it as the basis of design
4. To enable the student to break the boundary between abstract thought and material realities
5. To enable students to discover multiple methods and tools to develop their own process of learning
6. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Design
Course Code: BARC 201 **Sem 2** Name **Year 2019-20**

Course Objectives:
The primary intent of the studio is to ensure that students **internalise the fundamentals of space-making** , the **assembly of architectural elements** for such space-making and the relationship between **space and the activity** it hosts. They must also be able to understand how the act of space-making changes with scale - ranging from the **domestic to the monumental** . The students are also encouraged to **absorb** things from **outside of architecture** - poetry, film, paintings, folklore, performance arts like dance, theatre, etc. The studio **does not impose a strictly formal program** but instead encourages the students to derive the program based on their interpretation of poetry, paintings, etc.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To read and analyze context for design.
CO2	To understand and translate concepts in artistic practice outside of architecture into spatial concepts.
CO3	To conceptualize and develop a design process through, drawings an models as a response to context.
CO4	To create/author an original individual design response or final work.
CO5	To apply techniques of spatial representation in the form of final drawings and models.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 150**	**Exercise 01 Marks out of**	**Credits**	**Date of submission**		
FIRST YEAR - SEM 2	**Architectural Design**		**201**	**150**	**150 (Arch Design) +50 (College Projects)**	**(2AD + 2CP) Friday (2AD+1 CP)=7**	7th April 2018		
Exercise: Title	Spatial Experience- Exploring space through various media								
Exercise Note / Task	Introduction to design as a conceptual discipline directed at the analysis, interpretation, synthesis, and transformation of the physical environment. Exercises are aimed wherein the learner will develop an understanding of the contextual issues, elements, and processes of design and manifestation of architectural design.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Translation of the text into a response to context.	Unique and original interpretation that reflects a deep and profound understanding of the context.	Unique and original interpretation that reflects a clear understanding of the context.	Outstanding choice interpretation that reflects a clear understanding of the context	Excellent interpretation that reflects a clear understanding of the context.	Interpretation reflects a very good understanding of the context.	Interpretation reflects a good understanding of the context	Interpretation reflects a fair understanding of the context	Interpretation reflects satisfactory understanding of the context	Interpretation reflects an complete lack of effort at understanding.

Three dimensional explorations of form and space	Unique and original explorations of material, spatial possibilities and form. Independent a choices of material and experimentation. Shows great sensitivity and immersion in the subject.	Unique and original explorations Outstanding effort and experiments with form and material and spatial thinking.	Outstanding explorations in spatial possibilities material and form. Work reflects great rigour and clarity of thought.	Excellen texplorations in material and form. And space. Work reflects an excellent rigour and clarity of thought.	Very Good explorations in material, form and spatial thinking. Work reflects a rigour and clarity of thought.	Good explorations in spatial thinking, material and form. Work reflects a rigour and an engagement with iterative processes.	Fair explorations in spatial possibilitiesmaterial and form. Work reflects a fair amount of clarity of thought.	Satisfactory explorations in spatial thinking and material and form. Work reflects a fair amount of rigour.	Work reflect a. failure to engage in the process. No attempt made at explorations in form and material.
Explorations of the expressive possibilities of drawing	Unique and original explorations of drawings Independent and fearless experimentation.	Unique and original explorations in drawing. Outstanding effort and experiments.	Outstanding explorations in drawing.Work reflects great rigour and clarity of thought	Excellen texplorations through drawings. Work reflects an excellent rigour and clarity of thought	Very Good explorations through drawings. Work reflects a rigour and clarity of thought	Good explorations in drawing. Work reflects a rigour a	Fair explorations in drawing Work reflects a fair amount of rigour	Satisfactory explorations in drawing Work reflects a fair amount of rigour	No attempt made at explorations.
Rigour and regularity and consistency of work	Shows great sensitivity and immersion in the subject. Extraordinary amount of rigour and process work. Self-relexive and iterative process work.	Outstanding rigour, effort and rigour and immersion in iterative processes. Self-relexive and iterative process work.	Outstanding rigour, effort and consistency of work. Self-relexive and iterative process work.	Excellent rigour, effort and consistency of work.	Very good engagement with iterative processes.	Good engagement with iterative processes.	Fair amount of rigour and engagement through the process.	Satisfactoryamount of rigour and engagement through the process.	Work reflect a. failure to engage in the process.

COPO Mapping Setup for Sem ……

CO-PO mapping for a course of "UG Program "									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO4	PO5	PO6	PO7	PO8
CO1	To read and analyze context for design.	2	2	3	3	2	2	3	2
CO2	To understand and translate concepts in artistic practice outside of architecture into spatial concepts.	3	3	3	1	2	2	2	2
CO3	To conceptualize and develop a design process through drawings and models as a response to context.	2	3	3	3	2	1	1	2
CO4	To create/author an original individual design response or final work.	2	3	2	2	0	2	2	2
CO5	To apply techniques of spatial representation in the form of final drawings and models.	2	3	2	2	0	1	2	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 202	COURSE NAME	ALLIED DESIGN	SEMESTER	I	CREDITS	4
	FACULTY	Kausik M, Misbah H, Pratyusha S, Sonal S, Kruti H, Mansi B	SESSIONAL MARKS	150	SCHEME OF EXAMINATION	INTERNAL
	TIME	Monday 8-11:20	TEACHING HOURS	60	TIME REQUIRED OUTSIDE OF CLASS	4

UNIVERSITY COURSE DESCRIPTION	The course content will be developed by the individual colleges as per their choice of Allied Design scheme. The schemes may include Visual Studies, Basic Design, Graphic Design, Product Design, Furniture Design, Design of Outdoor Spaces
PEDAGOGIC INTENT	*The course is an exploration on formal expression, and spatial experience. It encourages individual explorations, iterative process works and experimentation with material and form. It aims to encourage each student to develop their own methods and processes by setting projects with individual intents and a process that has stages and deliverables but no fixed form or media. The students are given a range of words in various languages. They develop imagery of the atmospheres of these 'weather words" as drawings collage etc. They develop through drawings and models the idea for a three dimensional spatial experience of that atmosphere. In the final works they develop immersive 1:1 installations.*
METHOD	Teaching method- Setting up and guiding individual explorations in drawing. Lecture presentations on narrative and experiential drawings. Reviews and discussions of individual works in groups.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/ DELIVERABLE
	MONDAY	2/12/19	Introduction to the project. Distribution od 'weather words"		
	MONDAY	9/12/2019	Pin up of sketches		
	MONDAY	16/12/19	Working Class		
	MONDAY	23/12/19	Working Class		
	MONDAY	30/12/20	Working Class		
	MONDAY	6/1/20	Pin Up of Drawings		
	MONDAY	13/1/20	Maquettes for 3d work and sketches		
	MONDAY	20/01/20	Ideas Review	20.0%	Process Models
	MONDAY	27/01/20	Desk Crits		
	MONDAY	3/2/20	Working Class		
	MONDAY	10/02/20	Working Class		
	MONDAY	17/02/20	Working Class		
	MONDAY	24/02/20	Working Class		
	MONDAY	02/03/20	Working Class		
	MONDAY	09/03/20	Working Class		
	MONDAY	16/03/20	Prefinal Review- Installations	30.0%	Installations 1st draft
	MONDAY	23/03/20	Working Class		
	MONDAY	30/03/20	Working Class		
	MONDAY	3/4/20	Final Review of Works	50.0%	Process drawings, models and final

LEARNING OUTCOMES	*Achieve an understanding of formal qualities, relationship between the body and form/space, scale, Skills of drawing, making, working with different materials. T*
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Allied Design Semester Two*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Allied Design
Course Code: BARC 202 **Sem 2** **Name Year 2019-20**

Course Objectives: I

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand and analyse their own experience of space and context
CO2	To understand the expressive and narrative possibilities of drawing as spatial representations.
CO3	To understand and analyse the qualities of material and form through material and formal experiments.
CO4	To create/author an original individual work.
CO5	To evaluate their work through an an iterative design process

Rubrics: Exercise Atmospheres

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject :**	**Subject Code**	**University Subject Code**	**Sessional Marks: 150**	**Exercise 01 Marks out of**	**Credits**	**Date of submission**		
FIRST YEAR - SEM 2	Allied Design		BARC 202	150	75	4	21st Oct 2019		
Exercise: Title	Atmospheres								
Exercise Note / Task	The course is an exploration on formal expression, and spatial experience. It encourages individual explorations, iterative process works and experimentation with material and form. It aims to encourage each student to develop their own methods and processes by setting projects with individual intents and a process that has stages and deliverables but no fixed form or media. The students are given a range of words in various languages. They develop imagery of the atmospheres of these 'weather words" as drawings collage etc. They develop through drawings and models the idea for a three dimensional spatial experience of that atmosphere. In the final works they develop immersive 1:1 installations.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Choice and understanding of spatial experience	Choice reflects and enquiry an immersive engagement with site and extreme sensitivity. The articulation of spatial experience through drawings displays outstanding sensitivity and rigour. The work is experimentation and innovative and original. It exceeds the brief of the project in its attempts at exploring and expressing the nuances spatial experience.	Choice and enquiry reflects an immersive engagement with site. The articulation of spatial experience through drawings displays outstanding rigour. The work is experimentation and innovative and original	Choice and enquiry reflects an immersive engagement with site. The articulation of spatial experience through drawings is outstanding	Choice and enquiry reflect a excellent degree engagement with site. The articulation of spatial experience through drawings displays is .excellent.	Choice and enquiry reflect a very good degree engagement with site. The articulation of spatial experience through drawings displays is very good.	Choice and enquiry reflecta good degree engagement with site. The articulation of spatial experience through drawings displays is good.	Choice and enquiry reflect a fair degree engagement with site. The articulation of spatial experience through drawings is fair	Choice and enquiry reflecta n engagement with site. The articulation of spatial experience through drawings satisfactory.	The work shows no engagement with site . The work lacks effort and is of unacceptable quality.

Engagement with process	Immersive and rigorous explorations. Innovative and Original InventiveTechniques in experimenting with media and techniques. The work breaks new ground.	Immersive and rigorous explorations. Innovative and Original InventiveTechniques in experimenting with media and techniques. The work breaks new ground.	Outstanding explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	Excellent explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	Very good explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	Good explorations through the process. Innovative and Original Techniques in experimenting with media and techniques.	A fair amount of explorations through the process. An understanding of conventional techniques in experimenting with media and techniques.	A satisfactory amount of explorations through the process. A satisfactory understanding of conventional techniques in experimenting with media and techniques.	No engagement with process

The quality of final work and presentation.	The final work is of outstanding quality. It is innovative and original displaying goutsanding skill and understanding. It is presented in a original and innovative manner that reflects an extraordinary sensitivity to the experience of the body.	The final work is of outstanding quality. It is innovative and original displaying great skill and understanding. It is presented in a manner that reflects a great sensitivity to the experience of the body.	The final work is of outstanding quality. It is innovative and original displaying great skill and understanding. It is presented in a original and innovative manner.	The final work is of excellent quality. It is innovative displaying great skill and understanding.	The final work is of very good quality. It displays skill and understanding.	The final work is of good quality. It displays a good amount of skill and understanding.	The final work is of fair quality. It displays fair amount of skill and understanding.	The final work is of satisfactory quality. It displays a fair amount of skill and understanding.	The work is incomplete and displays a complete lack of effort and skill.

COPO Mapping Setup for Sem 2

CO-PO mapping for a course of "UG Program "									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO4	PO5	PO6	PO7	PO8
1	To understand and analyse their own experience of space and context	1	3	3	1	0	1	1	0
2	To understand the expressive and narrative possibilities of drawing as spatial representations.	1	3	3	0	1	0	1	0
3	To create/author an original individual work.	2	3	3	0	0	0	1	1
4	To create/ author an original individual work.	2	3	3	0	0	0	3	2
5	To evaluate their work through an an iterative design process	2	2	2	0	0	0	0	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 203	COURSE NAME	Architectural Building Construction & Materials I	SEMESTER	One	CREDITS	5
	FACULTY	Mamta, Ainsley, Ankush, Sanaeya	SESSIONAL MARKS	80	SCHEME OF EXAMINATION	Theory - 70 Marks
	TIME	09:40 - 3:00	TEACHING HOURS	3.3	TIME REQUIRED OUTSIDE OF CLASS	3

UNIVERSITY COURSE DESCRIPTION	The course content deals with the **elements of buildings** - Substructure/ Superstructure; Understanding role of building elements; Understanding construction built form & building practice; Pradigms: load bearing structures, frame structuresStudy of Simple buildings from foundation to roof; Building construction drawing practices and models **Building materials:** Contexual relevance - what are buildings made of; Natural and Artificial materials - where they are used; Materilas shall be studied by understanding their properties viz. Density ad specific gravity, strength, thermal properties; The study shall strongly emphasize the " Selection Criteria" comprising various aspects viz. Technology, Aesthetic, Socio-Cultural, Socio-economic, Ecology green materials), etc.
PEDAGOGIC INTENT	The intent of the course is to introduce the learner to various building systems, and its relation to context, topography, structure, materials and behaviour: The various systems are broadly classified into Roofing, Flooring, Envelopes, Foundations and Structure. Semester I The learners will be guided through the different architectural building components, contextual issues such as climate, material and technology for each of the systems. The students are made aware that the choice of the various systems of construction is a resultant of the context. The learners understanding would be further reinforced through different examples of vernacular, traditional and contemporary work of architecture. The various building systems will be examined both independently and in the manner in which they interact and affect one another. Semester II The second term focusses on specific material (natural and industrial) and the manner in which they work together. The learner will be taught the nature of the materials along with a. Resultant architectural elements b. Structural understanding c. Component sizes
METHODOLOGY	Observing and recording through site visits. Application through drawing and Modelling to demonstrate learning. Developing analytical skills to understand material, structure and forces. nderstanding and assimilation of the fundamentals taught in the lectures. 2. Studio exercises to guage the understanding and assimilation of knowledge - Drawings for representation; Hands on model making and testing to understand forces etc. 3. Assignments on market research

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Thursday	12-Dec-19	Roofing and Flooring Systems (Structural Components, Units, Material, Construction Techniques)		
week 2	Thursday	19-Dec-19	Introduction to timber systems. Timber members, Floor, roofs, sloping roofs, joinery		
week 3	Thursday	9-Jan-20	Working studio on timber floors and sloping roof	20	Individual Work: Sheet for the same family unit showing timber roofing systems
week 4	Thursday	16-Jan-20	Introduction to Alternate Construction techniques I (Covering the 'Selection Criteria' from the Syllabus) - Typology, material, technology, socio-economic aspects (Mud, Clay, Bamboo, Wattle and Daub) eg. Study of Hassan Fathy's work	10	Examples of alternate construction to be documented
week 5	Thursday	23-Jan-20	Openings or Structural Spanning Systems - Lintels, Beams and Arches (structure, units, material, construction techniques, types); Load transfer, distribution and choice of material viz a viz spans etc.	10	Observing and drawing different examples of arches. Drafting exercise on arches
week 6	Thursday	23-Jan-20	Site visit		
week 7	Thursday	30-Jan-20	Windows, Doors and Fenestrations. Classification as per use and materials; Timber joinery in doors	20	Observing and drawing different doors. Drafting exercise on doors
week 8	Thursday	7-Feb-20	Materials presentation		Understand material properties, characteristics, costs, joinery with the same material as well as other materials and sizes available in the market
week 9	Thursday	14-Feb-20	Materials presentation		
week 10	Thursday	28-Feb-20	Materials presentation	20	
week 11	Thursday	5-Mar-20	External Envelope: Balcony as Space, Walls as Element and Cladding as Skin - Balcony construction technique and Cavity Walls + External Cladding (techniques and materials)		

READING LIST	1]Building Construction : METRIC VOLUME 1&2 BY **W.R.McKAY**; 2] Building Construction by **S.C. Rangwala**; **k Ching** Download link : https://archive.org/details/FrancisD.K.ChingBuildingConstructionIllustratedWiley2014 4]Building Construction Handbook Seventh edition **R. Chudley** 5] Brick Work by **Laurie Baker** Download Link :http://costford.com/Brick%20work.pdf , 6] Rural House plans by **Laurie Baker** . Download link : http://www.costford.com/Rural%20House%20Plans.pdf 7] **Shigeru Ban** Projects 8] The Modulor by **Le Corbusier**

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Building Construction and Materials*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Construction and Materials
Course Code: BARC 103 Sem 2 First Year

Course Objectives:
The intent of the course is to introduce the learner to various building systems, and its relation to context, topography, structure, materials and behavior: The various systems are broadly classified into Roofing, Flooring, Envelopes, Foundations and Structure. The second term focusses on specific material (natural and industrial) and the manner in which they work together. The learner will be taught the nature of the materials along with
a. Resultant architectural elements
b. Structural understanding
c. Component sizes.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understanding the role of Building elements in a system of construction
CO2	Understand material properties, characteristics, costs, dimensions, joinery with the same material as well as other materials and sizes available in the market
CO3	Analytical understanding of the hierarchy and the articulation of Timber framed systems
CO4	Ability to imagine alternate materials that can be used to achieve similar tectonic and experiential requirements
CO5	Evaluation of structural articulation of materials through drawing plates and hands-on experiments

Rubrics:

Year of Assessment : 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture							
Year & Sem	**Subject: Architectural Building Construction and Materials**	**University Subject Code**	**Sessional Marks:**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
FIRST YEAR - SEM 2		**103**	**80 (Internal)**		**Studio (3) + Lecture (2) = 5**	**Multiple**		
Exercise: Title	Systems and Principles in Building Construction							
Exercise Note / Task	A comprehensive understanding of building systems and principles of construction based on locally available materials, skills and climatic conditions. The students are also expected to draft detailed construction plates, highlighting the materials and the details they choose use. The course also includes presentation of a student's understanding of materials and construction techniques through reports.							
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Data Gathering/ monitoring and collating	All data to be collected from reliable sources with references included in the reports. Exceptional in showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected.	All data to be collected from reliable sources with references included in the reports. Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with most references included in the reports. Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks

Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Very well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Excellent curation using outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation.	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
Representation Technique and final submission	Final presentation is complete with all process, concept, process and logic represented in original and innovative ways. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organisation. The drawings and models are consistently of outstanding, quality.	Final presentation is complete with all process, concept, process and logic represented in innovative ways. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organisation. The drawings and models are largely consistently of outstanding, quality.	Final presentation is complete with all process, concept, process and logic represented. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organisation. The drawings and models are fairly consistently of excellent quality.	Final presentation is complete with all process, concept, process and logic represented. The presentation is self-explanatory and shows an excellent level of skill in arranging and organisation. The drawings and models are fairly consistently of excellent quality.	Final presentation is complete with all process, concept, process and logic represented. The presentation is self-explanatory and shows very good levels of skill in arranging and organisation. The drawings and models are fairly consistently of very good quality.	Final presentation is complete with the process, concept, process and logic well represented. The presentation is self-explanatory and shows good levels of skill in arranging and organisation. The drawings and models are fairly consistently of good quality.	Final presentation is complete with a fair amount of process, concept, process and logic represented. The presentation is self-explanatory and shows good levels of skill in arranging and organisation. The drawings and models show a fair amount of clarity and skill.	Final presentation is complete with a satisfactory amount of process, concept, process and logic represented. The presentation is self-explanatory and shows satisfactory levels of skill in arranging and organisation. The drawings and models are of a satisfactory quality.	Final presentation is incomplete with the process, concept, process and logic not represented clearly. The presentation is unclear and illogical and shows poor levels of skill in arranging and organisation. The drawings and models are of poor quality.
Model Making and Analysis	The models display an enthusiasm and effort to take on challenging and difficult levels of resolution. They break new ground in terms of their innovation and inventiveness and effort. They are exquisitely constructed, with a innovative and sophisticated understanding of material,	The models display an enthusiasm and effort to take on challenging levels of resolution. They are innovative and and inventive and display outstanding effort. They are excellently constructed, with a clear understanding of material, structure, technique.	The models display outstanding effort and rigour. They are excellently constructed, with a clear understanding of material, structure, technique.	The models display excellent effort and rigour. They are well constructed, with a clear understanding of material, structure, technique.	The models display a very good effort and rigour. They are well constructed, with a clear understanding of material, structure, technique.	The models display a good effort and rigour. They are well constructed, with a clear understanding of material, structure, technique.	The models display a fair amount effort and rigour. They are constructed, with a fair understanding of material, structure, technique.	The models display a satisfactory amount effort and rigour. They are constructed, with a satisfactory understanding of material, structure, technique.	The models display a lack of effort or rigour. They are poorly constructed, with no understanding of material, structure, technique.

	structure, technique.								
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem 2, 2019-2020

CO-PO mapping for a course of B. Arch First Year Architectural Building Construction and Materials									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understanding the role of Building elements in a system of construction	2	3	3	0	2	3	3	2
CO2	Understand material properties, characteristics, costs, dimensions, joinery with the same material as well as other materials and sizes available in the market	3	3	3	0	0	3	3	2
CO3	Analytical understanding of the hierarchy and the articulation of Timber framed systems	2	3	3	0	0	1	3	0
CO4	Ability to imagine alternate materials that can be used to achieve similar	3	3	3	0	0	2	3	1
	tectonic and experiential requirements								
CO5	Evaluation of structural articulation of materials through drawing plates and hands-on experiments	3	3	3	1	3	1	3	0

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARS204					
COURSE NAME	Theory and Design of Structures	SEMESTER	II [First Year]	CREDITS	3
FACULTY	Rajitha Gopinath, Neeraj	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory -one paper of two hours duration Max. marks- 50 Min marks for passing- 20
TIME	8:00 am - 9:40 am	TEACHING HOURS	100 minutes duration- 45 hours	TIME REQUIRED OUTSIDE OF CLASS	4 Hours
COURSE DESCRIPTION	*Understanding various concepts about structures as tall, long, thin, wide, etc. Understanding articulation of structural systems from foundation to roof. c. Fundamentals and mechanics. d. S.I. system and units. e. Understanding structure why things don't fall down Structural systems- ways to create inner space Under standing loads of various types understanding the forces and Moments – Definition, cause, effect, units Types of forces, Conditions of equilibrium Beam reactions*				
PEDAGOGIC INTENT	*How does the structure want to behave under external forces? What are the internal resisting forces that are generated? Introduction to deformation, axial forces, bending, shear force, rotation and other such concepts. What are its inherent properties that provide it the necessary capacity to resit the forces? This requires introduction to geometrical and material properties.*				
METHODOLOGY	**Experimental Learning with discussions and problem solving to understand the basics of structural systems.**				

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
	Thursday	28-Nov	*Study trip documentation*		
	Thursday	5-Dec	Properties of materials-concrete, steel and wood. Explanation of stress and strain curve with respect to these materials.		
	Thursday	12-Dec	Recap of shear force and bending moment diagrams and deriving it with graphical method.Solving in class various SFD and BMD with graphica method		
	Thursday	19-Dec	What are trusses and its types? What are determinate and indeterminate trusses?		
	Thursday	26-Dec	Analysis of trusses wrt its nature of forces with method of joints and sections. Introduction to determinacy and how to calculate.		
	Thursday	2-Jan	Class test		
	Thursday	9-Jan	Class hands on exercise on trusses with the use of straws and pins. Testing them with weights.	10	
	Thursday	16-Jan	Theory of simple bending and its application. With exercise in class with ice cream sticks to interpret the nature of bending.		
	Thursday	23-Jan	Biomimicry and form finding exercises	15	
	Thursday	30-Jan	Joint exercise with construction class. Hands on activity to explore topology.	10	
	Thursday	6-Feb	Class test		
	Thursday	13-Feb	Revision of the course material		
	Thursday	20-Feb	Revision of the course material		
	*The assessment of the work of the students is divided as: **Assignments** Group work/Individual will be assessed on the basis of accuracy, presentation; **Online Tests** in the form of quizes; **Lecture note set submission** at the end of semester.*				
LEARNING OUTCOMES	*To understand basic theory of fundamental mechanics and support systems*				
READING LIST	1) Why Buildings Stand Up by Mario Salvadori 2) Eccentric Structures in Architecture by Joseph Lim 3)Theory of Structures by R.S. Khurmi 5)Theory of Structures by S Ramamurtham 6) Building Structures Illustrated by Francis D.K.Ching 7) Structure as Architecture by Andrew W Charleson 8] Mechanics of Materials by R C Hibbeler Web Links : http://www.wiete.com.au/journals/GJEE/Publish/vol16no2/01-Ilkovicova-L.pdf				

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Theory and Design of Structures 2*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project.
6. To enable the student to observe, experience, analyze space, its physicality, and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design.
8. To enable the student to break the boundary between abstract thought and material realities.
9. To enable students to discover multiple methods and tools to develop their own process of learning.
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Theory and Design of Structures 2
Course Code: BARC 204 Sem 2 First Year

Course Objectives:

- Introduce students to the concepts of deformation, axial forces, bending, shear force, rotation, and other fundamental structural concepts.
- Facilitate experimental learning through discussions and problem-solving activities to help students grasp the basics of structural systems.
- Enable students to analyze trusses and understand their behavior under various loading conditions with the concept of determinacy and its significance in understanding the stability and behavior of structural systems.
- Familiarize students with the properties of materials through stress-strain curves, emphasizing the elastic limit of different materials.
- Provide a comprehensive understanding of the theory of simple bending and its practical applications in structural design.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Apply problem-solving skills to analyze and design trusses, considering their behavior under different loading conditions and optimizing their structural performance.
CO2	Comprehend the properties of materials and understand the significance of different materials in structural design.
CO3	Understanding the unique roles of architects and structural designers in the process of architectural design and construction and the interaction between the two

Rubrics:

Year of Assessment : 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
FIRST YEAR - SEM 2	**TDOS2**	**BARC 204**	**204**	**50**	**50**	**3**	**Multiple**		
Exercise: Title	Experiments to understand various Materials and geometries of the elements								
Exercise Note / Task	Report of the exercise and readings from experiments								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Depth of Inquiry and ability to think intuitively	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoproratin g the minimum requirement s	Arbitary and Adhoc Inquiry
Exploring & designing	Showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks

Compilation for Report and readings	Very well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Clear formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Very good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Fairly formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Barely managed to get clarity of intent and study using poor diagrams and sketches	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and understanding of the subject
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem ……2

Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Apply problem-solving skills to analyze and design trusses, considering their behavior under different loading conditions and optimizing their structural performance.	1	3	2	0	0	0	2	0
CO2	Comprehend the properties of materials and understand the significance of different materials in structural design.	1	1	1	0	1	0	2	0
CO3	Understanding the unique roles of architects and structural designers in the process of architectural design and construction and the interaction between the two	2	1	1	2	0	1	3	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 205					
	COURSE NAME	*Humanities 2*	SEMESTER	*2*	CREDITS	*3 = 2 Humanities + 1 given to EVS*
	FACULTY	*Sarah George, Ginella George*	SESSIONAL MARKS	*50*	SCHEME OF EXAMINATION	*Theory - 50 marks*
	TIME	*Wednesday 1.20-3.00*	TEACHING HOURS	*Lecture*	TIME REQUIRED OUTSIDE OF CLASS	*None*

UNIVERSITY COURSE DESCRIPTION	
PEDAGOGIC INTENT	*The History of Architecture course at the KRVIA primarily attempts to enable the student to ingest notions of one's own cultural identity. The course goes beyond the taxonomical method of categorising and describing the physical aspects of the historical object to include the purpose of its making. The first semester begins by questioning ideas of how the writing of history defines our ideas of what can be defined as history. The exercises in this semester engage the student, through the writing of their family history to further discussions on an agrarian and mercantile economies and the architecture produced in these phases.*
METHODOLOGY	*The course adopts the modes of production as a chronological system to discuss the ideas that lead to a production of architecture. History is thus, seen and discussed as an understanding of processes - an intersection of belief, technology and social structure. The course uses the lens of political economy to understand the production of architecture.*

SCHEDULE	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	04.12.2019	*Introduction*		
week 2	11.12.2019	*What is History ?- Introduction to the study of History* *- Why do we study history of architecture , History as progress, Hyperreality*		
week 3	18.12.2019	*Introduction to the Agrarian Economy*		
week 4	08.01.2020	*Writing Personal Histories - Assignment 1*	***15 marks***	*Writing Assignment on a given topic*
week 5	15.01.2020	*Writing Personal Histories - Assignment 1*		*Discussion with students on assignment*
week 6	22.01.2020	*Nature Worshippers* *Layout of Indus city, Great granary*		
week 7	29.01.2020	*Class Assignment*	***10 marks***	*Drawing Assignment*
week 8	04.02.2020	*God spoke to the priests – Male order* *- Indian Caste System, Vedas, Progeny, Divine Rights Theory*		*Submission of Assignment 1*
week 9	11.02.2020	*God spoke to the priests – Position of women* *- Devdasi system, The Oracle, Acropolis*		
week 10	18.02.2020	*Body being worshipped* *Greek temple, Strength – Hercules, Achilles – military cities, Sexuality – Aphrodite, Khajuraho*		

EVALUATION CRITERIA	*The writing assignment will be evaluated on the basis of the students understanding of the structure and analysis. The drawing assignement will be based on the diagramming of the structure as per chosen elements of movement, experience, geometry etc,.*
LEARNING OUTCOMES	*1. Understanding Architecture as an outcome of socio cultural processes* *2. Writing Architectural History* *3. Unpacking history as interpretations rather than a sacred record*

CO-PO mapped syllabi of B.Arch Course 2019-2020_Humanities 2

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)

6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Humanities 2 **Sem: 2** **First Year**
Course Code: BARC 205

Course Objectives:

- To understand architecture as an outcome of socio cultural processes.
- To unpack histories as interpretations rather than as a text.
- To write an architectural history.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understanding the role of religion in defining and determining the culture of a society.
CO2	Evaluating the evolution of architecture through the agrarian and mercantile mode of production.
CO3	Understanding the role of religion in defining and determining the culture of a society

Rubrics :

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**		**Sessional Marks:**		**Exercise: Marks out of**	**Credits**	**Date of submission**
FIRST YEAR – Sem 2	**Humanities**		**BARC 205**		**50**		**50**	**2**	
Exercise: Title	Spatial understanding of a historic building								
Exercise Note / Task	Students have to select a historic structure of their choice. They have to specify atleast three parameters through which they will analyse the structure. They will then represent the analysis through drawings.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Selection of parameters and representation	1) Extremely articulate in framing parameters. 2) Very clear structure for presentation. 3) Well researched	1) Very articulate in framing parameters. 2) Clear structure for presentation. 3) Well researched	1)Clear and Articulate in framing parameters. 2) Well researched structure for presentation.	1) There is clarity in the parameters. 2) Research and structure for presentation is fairly good.	1) The parameter are fairly good 2) Research and structure for presentation can be better.	1) The parameters are good 2) Research and structure for presentation is fair.	1) There is clarity in the parameters. 2) Research and structure for presentation is found lacking	1)There is potential for the parameters but needs more clarity. 2) No research and structure for presentation	Non submission
Participation in class	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 2

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	Understanding the role of religion in defining and determining the culture of a society.	0	2	1	3	0	0	3	3
CO2	Evaluating the evolution of architecture through the agrarian and mercantile mode of production.	0	0	0	1	0	1	3	3
CO3	Understanding the role of religion in defining and determining the culture of a society	2	1	2	3	0	3	3	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

206	COURSE NAME	EVS	SEMESTER	II	CREDITS	2 EVS + 1Humanities
	FACULTY	Kimaya K,Minal Y, Sandeep M	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal
	TIME	12.00pm to 3:00 am, Tuesday	TEACHING HOURS	150 mins per week	TIME REQUIRED OUTSIDE OF CLASS	2hrs per week

UNIVERSITY COURSE DESCRIPTION	
PEDAGOGIC INTENT	The Environmental studies course will attempt to familiarise students with their environmental context, starting from their immediate neighbourhoods to the larger context of the city and region. It will try to create a better understanding of environmental issues and look critically at contemporary environmental approaches and practices. Through an analysis of case studies of sustainable practices and communities from around the world, it will assess various alternatives and undertake exercises in the practical application of ecological ideas in everyday life.There will be an exploration of concepts such as natural resources, the relationship between built environments and their natural setting, agro-ecological systems, traditional farming practices, self sustaining landscapes, urban biodiversity, habitats, forest foods, urban foodscapes and the role these could play in building resilient systems which would help in the conservaton of urban ecologies while also managing the problem of urban waste.The course will undertake a critical inquiry into perceptions ideologies, philosophies and movements concerning the natural environment; it will look at the politics of the environment and the environmental movements, from carbon trading to conservation, sustainability and green consumerism. It will also explore the relationship of city with food, farming and productive landscapes. It will attempt to examine the consequences of the industrialisation of the food system and its various impacts and try to the trace the roots of the impending agrarian ecological and food crisis. It will introduce participants to aspects such as the politics of food, and various movements centered around food in the city including case studies of initiatives aimed towards achieving food independence and alternative community based practices from around the world.
METHODOLOGY	The course will be conducted like a studio with a series of hands on practical exercises and projects where students will be asked to rethink and suggest alternatives to conventional systems. Through these projects combined with neighbourhood and city walks, site visits, case studies, lectures film screenings and discussions. It will include a demonstration of ecological farming practices with a series of hands on practical exercises and projects where students will be asked to rethink and suggest alternatives to conventional systems. Through an assessment of various alternatives, it will undertake exercises to demonstrate how urban systems can be made more productive and encourage the design of production closer to our homes. It will also evaluate the immense potential of these systems if scaled up to occupy urban green space at the neighbourhood, community or city level.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Tuesday	3 Dec 19	Introduction to urban framing and getting a concept drawing for vegetation beds	*10*	concept layout - group submission
week 2	Tuesday	10 Dec 19	studio - preparing beds and introduction to aquaponics		
week 3	Tuesday	7 Jan 20	studio - urban farming		
week 5	Tuesday	14 Jan 20	studio - urban farming		
week 6	Tuesday	21 Jan 20	studio - urban farming		
week 7	Tuesday	28 Jan 20	studio - urban farming		
week 8	Tuesday	4 Feb 20	recap on passive deisgn techniques		
week 9	Tuesday	11 Feb 20	buildings up a solar cooker and solar water heater		
week 10	Tuesday	18 Feb 20	site strategies and preparing a site plan. Contour site analysis		
week 11	Tuesday	25 Feb 20	Buidling micro climate for your site using climate analysis		
week 12	Tuesday	3 Mar 20	food studio - first harvest party	**20**	food studio submission
week 13	Tuesday	10 Mar 20	Introduction to active design techniques / urban farm maintenance		
week 14	Tuesday	17 Mar 20	active deisgn techniques - continuation / urban farm maintenance		
week 15	Tuesday	24 Mar 20	studio exercise - case study		
week 16	Tuesday	31 Mar 20	case study - submission	**20**	A3 format submission

CO-PO mapped syllabi of B.Arch Course 2019-2020-Environmental Studies

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)

6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Environmental Studies **Sem: 2** **First Year**

Course Objectives:

- The Environmental studies course will attempt to familiarise students with their environmental context, starting from their immediate neighbourhoods to the larger context of the city and region. It will try to create a better understanding of environmental issues and look critically at contemporary environmental approaches and practices. Through an analysis of case studies of sustainable practices and communities from around the world, it will assess various alternatives and undertake exercises in the practical application of ecological ideas in everyday life.
- There will be an exploration of concepts such as natural resources, the relationship between built environments and their natural setting, agro-ecological systems, traditional farming practices, self-sustaining landscapes, urban biodiversity, habitats, forest foods, urban foodscapes and the role these could play in building resilient systems which would help in the conservation of urban ecologies while also managing the problem of urban waste.
- It will also explore the relationship of the city with food, farming and productive landscapes. It will attempt to examine the consequences of the industrialisation of the food system and its various impacts and try to trace the roots of the impending agrarian ecological and food crisis. It will introduce participants to aspects such as the politics of food, and various movements centered around food in the city including case studies of initiatives aimed towards achieving food independence and alternative community-based practices from around the world.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To critically focus on concepts of climatology, elements of climate, and how architectural design principles have responded to different climate zones.
CO2	To explore concepts of urban ecology, and apply alternate design techniques using renewable and natural resources, and also adopt sustainable practices.
CO3	To understand, engage with and apply the ideas and concepts that have shaped environment-sensitive architectural thinking.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**							
Year & Sem	**Subject:**	**University Subject Code**	**Sessional Marks:**	**Exercise: Marks out of**	**Credits:**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
FIRST YEAR-SEM 2	**EVS**	**BARC 206**	**50**	**30**	**2 EVS+1Humanities**	**31.03.2020**		

Exercise: Title	Urban farming								
Exercise Note / Task	Hand on exercise on urban farming in college campus and submit report								
	EVS	**BARC 206**	**50**	**20**	**2**	**03.03.2020**			
Exercise: Title	Food cycle								
Exercise Note / Task	Food cycle studio submission-write up and panel composition								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Understanding of environment and their integration with other systems as well as with space	1)Complete understanding of systems 2)its integration with other system 3) its hierarchy in planned space	1)Very good understanding of systems 2)its integration with other and its position in planned space.	Good understanding of systems and its integration and its position in planned space.	Fairly good understanding of systems and its integration and its position in planned space.	1)Understanding of system is seen along with other systems 2) lacking spatial integration.	1)Lesser understanding of system is seen along with other systems 2) lacking spatial integration.	1)Poor understanding of system. 2)No understanding of integration with other systems.	Extremely poor understanding of system.	Non-Submission
Representation Technique and final submission	Logical and semantic representation	Logical representation	Good representation in all aspect	Good representation in all aspect	Fairly represented in all aspect	The drawings could be understood	Representation needed clarification	Drawings not clear enough	Non-Submission
Attendance, time management and participati	Attends 95% of total classes	Attends 90% of total	Attends 85 % of total	Attends 80% of total	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total	Attends less than 50% of

on in Studio		classes	classes	classes				classes	total classes

COPO Mapping Setup for Sem 2

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To critically focus on concepts of climatology, elements of climate, and how architectural design principles have responded to different climate zones.	3	2	2	1	1	1	1	1
CO2	To explore concepts of urban ecology, and apply alternate design techniques using renewable and natural resources, and also adopt sustainable practices.	3	2	2	1	1	1	1	1
CO3	To understand, engage with and apply the ideas and concepts that have shaped environment-sensitive architectural thinking.	1	2	2	2	1	1	3	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 207 (3CP- ARD II , 1 CP- Visual Studies II)						
	COURSE NAME	Architectural Representation & Detailing II (ARD II + Visual studies II)	SEMESTER	2	CREDITS	6-2 (given to AD)= 4 (3+1)
	FACULTY	DIPTI, KEYA, ABHIJIT, SHREYA, NIBEDITA, MANSI, KAUSHIK, ASEEM, SONAL, MISBAH	SESSIONAL MARKS	150	SCHEME OF EXAMINATION	Internal
	TIME	12 to 12:50 & 1:20 to 3pm & 9:40 to 11:20,	TEACHING HOURS	90 HOURS, 18 HOURS	TIME REQUIRED OUTSIDE OF CLASS	Some Friday classes will require the students to go outside for sketching, 1hour a week,.

BARC 207						
	COURSE NAME	Architectural Representation & Detailing II	SEMESTER	2	CREDITS	3
	FACULTY	ABHIJIT, DEEPTI, NIBEDITA, KEYA, SHREYA, GINELLA	SESSIONAL MARKS	75% of 150	SCHEME OF EXAMINATION	Internal
	TIME	12 to 12:50 & 1:20 to 3pm	TEACHING HOURS	90 HOURS	TIME REQUIRED OUTSIDE OF CLASS	Some Friday classes will require the students to go outside for sketching,

what

UNIVERSITY COURSE DESCRIPTION	*Graphics: Studio work culture, pencils, instruments, table, etc. Plane geometry and solid geometry, orthography, drawing and building thicknesses and hollows; plans, sections, elevations.* *Freehand: Memory, left brain creativity.* *Workshop: Building skills, Studio work culture; instruments, tabletop; cutting, joining, shaping materials amd media installations assembly.*

why

PEDAGOGIC INTENT	*Developing the ability to visualize and learn hand-drafting skills.*

how

METHOD	**The course is an introduction to the technical tools for representation. It is a working studio all course work will be completed in studio hours. The course will cover orthographic projection, axonometric, isometric and perspective projections as amethod to draw and representspace. Themode of teaching will be through a combination of lectures and studio. The assignments will introduce variations into drawing the objects/spaces so that each student generates solutions to their own challenges.**

when

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
week 1	Wednesday	15-01-2020	Introduction to drafting tools, Line weights, Lettering, Sheet Composition	10	Sheet composition and basic drawing
week 2	Wednesday	22-01-2020	Introduction to Orthographic Projection		Lecrure and Studio
week 3	Wednesday	29-01-2020	Orthographic Projection to be continued	10	Drafted Sheet
week 4	Wednesday	05-02-2020	Orthographic Projection: True Lengths		Studio
week 5	Wednesday	12-02-2020	Orthographic Projection: True Lengths to be continued	10	Drafted Sheet
week 6	Wednesday	19-02-2020	Orthographic Projection: Intersection of Solids	10	Sketched Sheet
week 7	Wednesday	26-02-2020	Orthographic Projection: Intersection of Solids to be continued	10	Drafted Sheet
week 8	Wednesday	04-03-2020	Architectural Section	10	Drafted Sheet
week 9	Wednesday	11-03-2020	Axonometric: Staircase (5 types)	10	Drafted Sheet with Plan and Elevation
week 10	Wednesday	25-03-2020	Architectural Model through plans and sections	20	Drafted Sheet with Plan and Sectional Axonometric
week 11	Wednesday	30-03-2020	Architectural Model through plans and sections & Submission of Redo Sheets	20	Portfolio Submission

LEARNING OUTCOMES	*The students should, by the end of the course, be able to learn how to use the instruments and tools for drafting and model making, be able to imagine and represent a 3 dimensional object / space on paper through the taught methods. Students will be evaluated based on their ability to demonstrate drawing and making skills, precision of drafting, workmanship on models, ability to question the taught method and devise alternative methods of solving the same problem.*
READING LIST	

BARC 207						
	COURSE NAME	Visual Studies II	SEMESTER	2	CREDITS	1
	FACULTY	SONAL, KAUSHIK MUKHOPADHYAY, MAMTA, ASEEM, MISBAH	SESSIONAL MARKS	25% of 150	SCHEME OF EXAMINATION	Internal
	TIME	9:40 to 11:20,	TEACHING HOURS	14 HOURS	TIME REQUIRED OUTSIDE OF CLASS	1 HOUR A WEEK

what

UNIVERSITY COURSE DESCRIPTION	*Graphics: Studio work culture, pencils, instruments, table, etc. Plane geometry and solid geometry, orthography, drawing and building thicknesses and hollows; plans, sections, elevations.* *Freehand: Memory, left brain creativity.* *Workshop: Building skills, Studio work culture; instruments, tabletop; cutting, joining, shaping materials amd media installations assembly.*

why

PEDAGOGIC INTENT	*Developing the ability to visualize and learn hand-drafting skills.*

how

METHOD	**The classes will consist of students presentations, discussions on various concepts and slide presentations by faculty.**

when

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	DISTRIBUTIO N	ASSIGNMENT/DELIVERABLE
week 1	Friday	17-01-2020	Introduction & Sketching Exercises		
week 2	Friday	24-01-2020	Outdoor sketching exercises	10	Students Presentation20 students - 2 groups
week 3	Friday	31-01-2020	Presentation on various artist's drawings		Lecture Presentation

BARC 207						
	COURSE NAME	Visual Studies II	SEMESTER	2	CREDITS	1
	FACULTY	SONAL, KAUSHIK MUKHOPADHYAY, MAMTA, ASEEM, MISBAH	SESSIONAL MARKS	25% of 150	SCHEME OF EXAMINATION	Internal
	TIME	9:40 to 11:20,	TEACHING HOURS	14 HOURS	TIME REQUIRED OUTSIDE OF CLASS	1 HOUR A WEEK

week 4	Friday	07-02-2020	Quick Sketching using different mediums	5	Students Presentation20 students - 2 groups
week 5	Friday	14-02-2020	Quick Sketching using different mediums		Studio
week 6	Friday	21-02-2020	Quick Sketching using different mediums	5	Students Presentation20 students - 2 groups
week 7	Friday	28-02-2020	Making narrative drawings		Studio
week 8	Friday	07-03-2020	Making narrative drawings		Studio
week 9	Friday	14-03-2020	Making narrative drawings	20	Final Students Presentation 20 students - 2 groups

LEARNING OUTCOMES	*Observation and drawing skills.* *Students will be marked on their presentations, for their engagement and effort and also separately (5marks) for the participation in class discussions.*
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Representation and Detailing II*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete)
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students, the ability to work within groups without sacrificing their own identity. (Individual / Collective)

6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Representation and Detailing 1

Course Code: BARC 207 **Sem II** **First Year**

Course Objectives:
This term the course moves beyond the problems of representing space and form through conventional architectural drawing techniques into drawing as an operative or constructive act. It exposes students to techniques of constructing and representing complex curved forms using techniques of orthographic projections, and the making of physical models.

Introduce critical thinking around techniques of representation in art and architecture in the contemporary world. Expose students to a history of questions and methods of representation. Draw parallels between ways of seeing, systems of production, a history of culture and forms of representation and expression.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understand the techniques and methods for a comprehensive architectural representation.
CO2	Enable students to understand relationships between the choice of medium, also use of critical or expressive intents, in the making and form of visual representations.
CO3	Enable students to evaluate architectural representation as a method of investigating architectural design in society.
CO4	Enable students to create, and manipulate three dimensional form and space by use the tools of representation.
CO5	Facilitate students to create orthographic projections, axonometric and isometric tools of representation of architecture.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject: Architectural Representation and Detailing 1I**	**University Subject Code**	**Sessional Marks:**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
FIRST YEAR - SEM 2		**207**	**75% of 150 (Internal)**		**4**	**Multiple**		
Exercise: Title	TBD							
Exercise Note / Task	-							
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Ability to understand, follow and apply an appropriate/ correct method of drawingg	Exceptional understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been employed correctly. Adequate no. of views/ details have been drafted to understand the object holistically. No duplicate methods have been used to achieve the final result. Every step of the method employed has	Outstanding understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been employed correctly. Adequate no. of views/ details have been drafted to understand the object holistically. No duplicate methods have been used to	Sophisticated understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been attempted well. Adequate no. of views/ details have been drafted to understand the object holistically. No duplicate methods	Excellent understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been attempted well. No. of views/ details employed are good enough to understand the object holistically. No duplicate methods have been used to achieve the final result. Most of the steps of the method has been employed in a sequential manner	Very good understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been attempted well. No. of views/ details employed are good enough to understand the object holistically. No duplicate methods have been used to achieve the final result. Most of the steps of the method has been employed in a sequential manner	Good understanding of method is displayed through the drawing. The technique of parallel projection is used to represent the object. If alternate methods are used, they have been attempted satisfactorily. No. of views/ details employed are satisfactory to understand the object	Fair understanding of method is displayed through the drawing. The technique of parallel projection has not been fully understood. No. of views/ details employed are inadequate. No duplicate methods have been used to achieve the final result. Not all steps of the method have been employed	Satisfactory understanding of method is displayed through the drawing. The technique of parallel projection has not been employed. No. of views/ details employed are inadequate. Duplicate methods have been used to achieve the final result. Lack of sequential methodical understanding	Poor understanding of method is displayed through the drawing. The technique of parallel projection used is incorrect. Lack of no. of views/ details employed are good enough to understand the object holistically. Duplicate methods have been used to achieve the final result. Lack of sequential

	followed a sequential process of arrival and is contingent to the next step.	achieve the final result. Every step of the method employed has followed a sequential process of arrival and is contingent to the next step.	have been used to achieve the final result. Most of the steps of the method has been employed in a sequential manner			holistically. No duplicate methods have been used to achieve the final result. Not all steps of the method have been employed in a sequential manner.	in a sequential manner.		methodical understanding. Lack of effort in rigour of the drawing.
Representation Technique and final submission	All the criteria below have been exceptionally employed with great rigour, precision and neatness. The presentation is self-explanatory and shows an exceptional level of skill in arranging and organisation.	Most of the criteria below have been exceptionally employed with great rigour, precision and neatness. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organisation .	Most of the criteria below have been employed with great rigour, precision and neatness. The presentation is self-explanatory and shows an sophisticated level of skill in arranging and organisation.	Most of the criteria below have been employed with rigour, precision and good neatness. The presentation is self-explanatory and shows an excellent of skill in arranging and organisation.	Most of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a very good level of skill in arranging and organization.consistently of very good quality.	Not all of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a good level of skill in arranging and organisation.	Not all of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a fair level of skill in arranging and organisation.	Not all of the criteria below have been employed. Satisfactory levels of rigour, precision and neatness. The presentation is not self-explanatary and requires to achieve a satisfactory level of skill in arranging and organisation.	Most of the criteria below have not been employed. Lack rigour, precision and netaness. The presentation lacks clarity and shows poor level of skill in arranging and organisation.
Line quality (line types, line weights; these include both drafted lines and free-hand lines, object lines, section lines, elevation lines, centre lines, hidden lines, dotted/ dashed line, hatches, material indication)									
Annotation lines (line type, line weight, arrow head, these include - guide lines, construction lines, dimension lines, extension lines, leaders, break line, border lines, cutting-plane line/ arrow,									

slopes and gradations)									
Annotation text (Size, Style - Template texts, labelling, lettering quality, level demarcation, dimensioning, call-outs)									
Sheet composition (template design, sheet layout, no. of details to holistically explain the object)									
Sheet information (north sign, graphic scale, notes, student's name, roll no., sheet title, drawing unit dimension note, legends, graphic symbols)									
Model Making and Analysis	The models display an enthusiasm and effort to take on challenging and difficult levels of resolution. They break new ground in terms of their innovation and inventiveness and effort. They are exquisitely constructed, with a innovative and sophisticated understandin g of material, structure, technique.	The models display an enthusiasm and effort to take on challenging levels of resolution. They are innovative and inventive and display outstanding effort. They are excellently constructed, with a clear understandi ng of material, structure, technique.	The models display outstanding effort and rigour. They are excellently constructed, with a clear understanding of material, structure, technique.	The models display excellent effort and rigour. They are well constructed, with a clear understanding of material, structure, technique.	The models display a very good effort and rigour. They are well constructed, with a clear understanding of material, structure, technique.	The models display a good effort and rigour. They are well constructe d, with a clear understan ding of material, structure, technique.	The models display a fair amount effort and rigour. They are constructe d, with a fair understand ing of material, structure, technique.	The models display a satisfactory amount effort and rigour. They are constructed, with a satisfactory understandi ng of material, structure, technique.	The models display a lack of effort or rigour. They are poorly constructe d, with no understand ing of material, structure, technique.
Time management and participation in Studio	100 %	99% -95%	94-91%	90-85%	84-81%	80-75%	74-70%	69-60%	Below 60%

Year & Sem	**Subject: Visual Studies I1**	**University Subject Code**	**Sessional Marks:**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
FIRST YEAR - SEM 2		**207**	**25 % of 150 (Internal)**		**2**	**Multiple**		
Exercise: Title	TBD							
Exercise Note / Task	-							

Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Understanding of visual concepts and their reflection through drawing/sketching	Exceptional understanding of ways of analysing form and developing innovative methods of representation apart from the given sketching method.	Outstanding understanding of method is displayed through the drawing.	Sophisticated understanding of method is displayed through the drawing.	Excellent understanding of method is displayed through the drawing.	Very good understanding of method is displayed through the drawing.	Good understanding of method is displayed through the drawing.	Fair understanding of method is displayed through the drawing.	Satisfactory understanding of method is displayed through the drawing.	Poor understanding of method is displayed through the drawing. Lack of effort in rigour of the drawing.
Representation Technique and final submission	All the criteria below exceptionally employed with great rigour, precision and neatness. The presentation is self-explanatory and reveals an exceptional level of skill in arranging and organisation through visual communication, apart from sketching	Most of the criteria below have been exceptionally employed with great rigour, precision and neatness. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organisation.	Most of the criteria below have been employed with great rigour, precision and neatness. The presentation is self-explanatory and shows an sophisticated level of skill in arranging and organisation.	Most of the criteria below have been employed with rigour, precision and good neatness. The presentation is self-explanatory and shows an excellent of skill in arranging and organisation.	Most of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a very good level of skill in arranging and organization.consistently of very good quality.	Not all of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a good level of skill in arranging and organisation.	Not all of the criteria below have been employed with rigour, precision and satisfactory neatness. The presentation shows a fair level of skill in arranging and organisation.	Not all of the criteria below have been employed. Satisfactory levels of rigour, precision and neatness. The presentation is not self-explanatory and requires to achieve a satisfactory level of skill in arranging and organisation.	Most of the criteria below have not been employed. Lack rigour, precision and netaness. The presentation lacks clarity and shows poor level of skill in arranging and organisation.
Time management	100 %	99% -95%	94-91%	90-85%	84-81%	80-75%	74-70%	69-60%	Below 60%

and participation in Studio									

COPO Mapping Setup for Sem 2, 2019-2020

CO-PO mapping for a course of B. Arch First Year Architectural Representation and Detailing II									
Sr. No.	CO description	PO1	PO2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	Understand the techniques and methods for architectural representation.	2	3	3	0	1	3	3	2
CO2	Enable students to understand relationships between the choice of medium, also use of critical or expressive intents, in the making and form of visual representations.	3	2	3	0	0	0	0	2
CO3	Enable students to evaluate the architectural representation as a method of investigating architectural design in society.	3	2	3	0	0	0	0	2
CO4	Enable students to create, and manipulate three dimensional form and space by use the tools of representation.	2	3	3	3	0	0	2	3
CO5	Facilitate students to create orthographic projections, axonometric and isometric tools of representation of architecture.	2	1	3	0	0	0	3	0

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 220	COURSE NAME	College Projects (Building Technology + Architectural Theory)	SEMESTER	One	CREDITS	6 (split across the courses of B.Tech (2CP), Architectural Theory (1CP) and Architectural Design (3CP)
	FACULTY	B.Tech (Kaushik, Apurva P., George, Shirish, Sonal)+ Architec-tural Theory (Kaushik, Sonal)	SESSIONAL MARKS	100 (30 (B.Tech + 20 (AT) + 50 (AD))	SCHEME OF EXAMINATION	Internal
	TIME	B.Tech - MONDAY, 12:00pm to 3:00 pm Architectural Theory – FRIDAY, 12:00 pm to 12:50 pm	TEACHING HOURS	4 hours	TIME REQUIRED OUTSIDE OF CLASS	4hours

College Projects Course 1 - Building Technology

BARC 220	COURSE NAME	College Projects (Building Technology)	SEMESTER	One	CREDITS	2CP + 1 TOS
	FACULTY	Kaushik, George, Sonal, Apurva P. and Shirish	SESSIONAL MARKS	30 + 20 (TOS)	SCHEME OF EXAMINATION	Internal
	TIME	B.Tech - MONDAY, 12:00pm to 3:00 pm	TEACHING HOURS	3 Hours	TIME REQUIRED OUTSIDE OF CLASS	3 hours
PEDAGOGIC INTENT	The course is designed to help the students develop an intuitive understanding of various structural systems and the behavior of material. To do this, the studio focuses on the follow-ing three aspects of building systems: Structure, Material & Systems. Although it is difficult to isolate one from the others, we try and design projects such that one of the three aspects comes into focus through the course of the studio. This enables us to engage the students into looking at a particular aspect of structural systems.					
METHOD	The year is designed as a unit. Each project looks at a different aspect of the structure & structural systems and each successive project is increasing in scale. The project brief sets out a 'problem' designed around Structural systems or Material properties. The course thereby borrows a credit from the Theory and Design of Structures course to facilitate the process and validate the outcome. The students are required to solve the problem through several built iterations or built solutions. The learning is therefore in the making of the struc-ture. The studio sessions focus on the strength & weakness of the structural solutions & de-sign aspects of the same.					

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Monday	2-Dec-19	Studio 1: Introduction		Studio/ class work
week 2	Monday	9-Dec-19	Final review of studio 1 (carried over from Semester 1)	10	Structural assesment
week 3	Monday	16-Dec-19	Pre-annuals/ annual week		
week 4	Monday	23-Dec-19	Pre-annuals/ annual week		
week 5	Monday	30-Dec-19	Holiday		
week 6	Monday	6-Jan-20	Studio 2: Introduction		Introduction studio
week 7	Monday	13-Jan-20	studio session		ideas/ drawings and models
week 8	Monday	20-Jan-20	studio session		ideas/ drawings and models
week 9	Monday	27-Jan-20	studio session		ideas/ drawings and models
week 10	Monday	3-Feb-20	Mid-term review	20	scaled model
week 11	Monday	10-Feb-20	studio session		building commencement
week 12	Monday	17-Feb-20	studio session		1:1 scaled structure
week 13	Monday	24-Feb-20	studio session		1:1 scaled structure
week 14	Monday	2-Mar-20	Pre-final review	20	1:1 scaled structure
week 15	Monday	9-Mar-20	studio session		1:1 scaled structure
week 16	Monday	16-Mar-20	studio session		1:1 scaled structure
week 17	Monday	23-Mar-20	Final Review	30	Review

LEARNING OUTCOMES	*The course is designed to help the students develop and intuitive understanding of various structural systems and the behavior of material. They will also learn skills to work with differ-ent material with hand and engagement with different building processes using tools.*
READING LIST	Some of the Reference works we use frequently in class include: 1. Theo Jannssen – wind sculptures 2. Works of Shigeru Ban 3. Works of Kengo Kuma 4. Rube Goldberg's machines 5. Details by Renzo Piano & Renzo Piano Building Workshop 6. Works of Richard Rogers Any other structural, construction details as required in the studio.

College Projects Course 2 - Architecture Theory

BARC 220	COURSE NAME	College Projects (Architecture Theory)	SEMESTER	One	CREDITS	1CP
	FACULTY	Kaushik Mukhopadhyay and Sonal Sundararajan, Aseem and Misbah Hararwala	SESSIONAL MARKS	20	SCHEME OF EXAMINATION	Internal
	TIME	FRIDAY, 12:00 pm to 12:50 pm	TEACHING HOURS	50 mins	TIME REQUIRED OUTSIDE OF CLASS	1 hour
PEDAGOGIC INTENT	Crtical thinking, exposure to theore&cal concepts, ideas in modern art and architecture.					
METHOD	The classes will consist of students presentations, discussions on various concepts and slide presentations by faculty.					

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Friday	6-Dec-19	Introduction to the course. Screening of Modern Times		
week 2	Friday	3-Jan-20	Art and Architecture in the age of early industrialisaNon- Garden City. Art and CraQs movement.		
week 3	Friday	10-Jan-20	AbstracNon and Cubism Art and Architecture		
week 4	Friday	17-Jan-20	AbstracNon and Cubism Art and Architecture		200 word critique of one work discussed through the course
week 5	Friday	24-Jan-20	Figure sketching		
week 6	Friday	31-Jan-20	figure sketching		
week 7	Friday	7-Feb-20	Art and architecture in the age of Mass Production		

EVALUATION CRITERIA	*The students will be evaluated in groups, based on the method of working, rigour and progress as observed within each studio session. The students will be marked on the follwoing criteria: A. Idea development B. Progress in studio work C. Method/s of working or systems of building D. Rigour and engagement with the studio.*
LEARNING OUTCOMES	*The course is designed to help the students develop and intuitive understanding of various structural systems and the behavior of material. They will also learn skills to work with differ-ent material with hand and engagement with different building processes using tools.*
READING LIST	Keywords, Raymond Williams Critical terms in Art History Edited by Robert S. Nelson And Richard Shiff, Ways of seeing John Berger.

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *College Projects ((Building Tech-nology + Architectural Theory + Architecture Design)*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete)
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course 1: Building Technology (2CP + 1 TOS)
Course Code: BARC 220 Sem 2 First Year

Course Objectives:
The course is designed to help the students develop an intuitive understanding of various structural systems and the behavior of material. To do this, the studio focuses on the following three aspects of building systems: Structure, Material & Systems. Although it is difficult to isolate one from the others, we try and design projects such that one of the three aspects comes into focus through the course of the studio. This enables us to engage the students into looking at a particular aspect of structural systems. The year is designed as a unit. Each project looks at a different aspect of the structure & structural systems and each successive project is increasing in scale.
The project brief sets out a 'problem' designed around Structural systems or Material prop-erties. The students are required to solve the problem through several built iterations or built solutions. The learning is therefore in the making of the structure and to facilitate this aca-demically one credit of Theory and Design of Structures has been assigned to the course. The studio sessions focus on the strength & weakness of the structural solutions & design aspects of the same.

Course 2: Architecture Theory (1 CP)
Course Code: BARC 220 Sem 2 First Year

Course Objectives:
The course intent is to sharpen a student's critical faculty - to find tools for analysis and reflection.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To enable students to recognize, conceptualize, ideate, and iterate structural systems as a part of design
CO2	To develop an analytical understanding of structural systems and validating the same through physical testing/ evaluation
CO3	To develop an intuitive understanding of materials, their inherent properties, and their mechanical behaviour in structural systems. To enable the students to work with various tools and instrument in order to shape and handle the assigned material in their designs

CO4	To understand concepts and ideas that have shaped the world that surrounds them and to evaluate these ideas as they emerge out of socio-economic structures
CO5	To recall/remember ideas and key works in the history of Art and Architecture. To critically analyse and evaluate works of art and architecture, with respect to the ideas that shape them, forms and expression.

Rubrics for College Projects Course 1 (Building Technology):

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject: Architectural Building Construction and Materials**	**University Subject Code**	**Sessional Marks:**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**	
FIRST YEAR - SEM 1		**220**	**30 + 20 (TOS)**		**2CP + 1 TOS**	**Multiple**			
Exercise: Title	Spanning Systems								
Exercise Note / Task	The year is designed as a unit. Each project looks at a different aspect of the structure & structural systems and each successive project is increasing in scale. The project brief sets out a ‘problem’ designed around Structural systems or Material prop-erties. The students are required to solve the problem through several built iterations or built solutions. The learning is therefore in the making of the structure and to facilitate this aca-demically one credit of Theory and Design of Structures has been assigned to the course. The studio sessions focus on the strength & weakness of the structural solutions & design aspects of the same.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Concept and Idea Development	Exceptional in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously recognising the importance and evaluating the form of the built.	Outstanding in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously recognising the importance and evaluating the form of the built.	Excellent in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously recognising the importance and evaluating the form of the built.	Sophisticated in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously recognising the importance and evaluating the form of the built.	Very Good in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously designing an adequate form for the built	Good in showcasing an intuitive understanding of structural systems using the assigned material, while simultaneously designing an adequate form for the built	Satisfactory in showcasing an intuitive understanding of structural systems using the assigned material, however not recognising the importance of form	Fair in showcasing an intuitive understanding of structural systems using the assigned material, however not focused on form entirely	Poor understanding of mechanical behaviour of structural systems

Progress in studio work	Has shown exceptional progress in design development from one stage to the other.	Has shown outstanding progress in design development from one stage to the other.	Has shown excellent progress in design development from one stage to the other.	Has shown sophisticated progress in design development from one stage to the other.	Has shown very good progress in design developme nt from one stage to the other.	Has shown good progress in design developme nt from one stage to the other.	Has shown satisfactory progress in design developme nt from one stage to the other.	Has shown fair progress in design developme nt from one stage to the other.	Has shown poor progress in design developme nt from one stage to the other.
Method/s of working or systems of building	The system of building is exceptionally resolved and break new ground in terms of innovations, inventiveness, and effort.	The system of building is outstandingly resolved and break new ground in terms of innovations, inventiveness , and effort.	The system of building is excellently resolved and break new ground in terms of innovations, inventiveness, and effort.	The system of building is sophisticatedl y resolved and display rigour and effort..	The system of building has very good resolution and display rigour and effort.	The system of building has good resolution and display rigour and effort..	The system of building has satisfactory resolution and display rigour and effort.	The system of building has fair resolution and display rigour and effort.	Poor understandi ng of structural systems,
Rigour and engagement with the studio.	The structures are exquisitely constructed, with an innovative and exceptionally understanding of material, structure, technique.	The structures are innovative, inventive and display outstanding effort. They are excellently constructed, with a clear understandin g of material, structure, technique.	The structures are excellently constructed, with a clear understanding of material, structure, technique.	The structures are well constructed, with a clear understandin g of material, structure, technique	The structures are well constructe d, with a clear understand ing of material, structure, technique.	The structures are well constructed , with a clear understandi ng of material, structure, technique	The structures are constructed , with a satisfactory understandi ng of material, structure, technique.	The structures are constructed , with a fair understandi ng of material, structure, technique.	lack of rigour and effort. Laxity in understandi ng material, structure and technique.
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participati on	75% attendance and good participatio n	75% attendance and Fair participatio n	75% attendance and average participatio n	Poor participatio n and absence

Rubrics for College Projects Course 2 (Architectural Theory) :

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks: max 100**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
FIRST YEAR - SEM2	**College Projects (Architectura l Theory)**		**BARC 220**	**20**		1 College Projects	15-02-19		
Exercise: Title	Writing Assignment								
Exercise Note / Task	500 words on one work discussed through the course								

Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Writing Assignment	1) Extremely articulate in framing the area for inquiry. 2) Very clear structure for presentation. 3) Well researched	1) Very articulate in framing the area for inquiry. 2) Clear structure for presentation. 3) Well researched	1)Clear and Articulate in framing the area for inquiry. 2) Well researched structure for presentation.	1) There is clarity in the area of inquiry 2) Research and structure for presentatio n is fairly good.	1) The area of inquiry is fairly good 2) Research and structure for presentatio n can be better.	1) The area of inquiry is good 2) Research and structure for presentatio n is fair.	1) There is clarity in the area of inquiry 2) Research and structure for presentation is found lacking	1)There is potential for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Non submissio n
Attendance and Participation	Attends less than 95% of total classes	Attends less than 90% of total classes	Attends less than 85 % of total classes	Attends less than 75 % of total classes	Attends less than 70 % of total classes	Attends less than 65 % of total classes	Attends less than 60 % of total classes	Attends less than 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 2, 2018-2019

CO-PO mapping for a course of B. Arch First Year College Projects									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To enable students to recognize, conceptualize, ideate, and iterate structural systems as a part of design	1	3	3	0	3	3	3	0
CO2	To develop an analytical understanding of structural systems and validating the same through physical testing/ evaluation	1	3	3	0	0	1	3	2
CO3	To develop an intuitive understanding of materials, their inherent properties, and their mechanical behaviour in structural systems. To enable the students to work with various tools and instrument in order to shape and	0	2	3	0	0	1	3	0

	handle the assigned material in their designs								
CO4	To understand concepts and ideas that have shaped the world that surrounds them and to evaluate these ideas as they emerge out of socio-economic structures	3	1	2	1	0	3	3	2
CO5	To recall/remember ideas and key works in the history of Art and Architecture. To critically analyse and evaluate works of art and architecture, with respect to the ideas that shape them, forms and expression.	3	2	2	1	0	3	3	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

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Second Year

Program Specific Objectives

1. To enable the students to gain confidence to be able to script their own trajectories of learning and equip them with specific methods and tools to evolve their own process of learning.

2. To challenge students to be able to identify their interest and engage with the regional, cultural, social and environmental questions of inquiry

3. To exhibit students to diverse modes of architectural expression across regions and develop their sensorial engagement.

4. To instill holistic learning by way of integrating design and technology within one space.

5. To engage students to acquire skills to perform as an architect and instill holistic ways of learning and engage in finding ways of participation in the improvement of our spatial environment.

6. To enable students to engage with the intuitive as well analytical modes of learning.

7. To encourage students to elucidate their own value systems in order to envision an ethical mode of design production.

Second Year

Pedagogic Intent

Primary Dialectical Questions : Self - Other / Analytical - Intuitive / Individual - Collective / Abstract - Empirical / Technical - Social

While the First Year challenges many of the preconceptions of the self and of architecture that the students come with, the second year is a space where the student is given the confidence to be able to script her own trajectories of learning through her interests. As such it is an important space for enabling the 'Agency of the Learner'. This agency can be activated through processes where the student is actively involved in the creation of knowledge whether that be in modes of reading contexts or developing their own processes. These trajectories are enabled by the courses by the provision of scaffoldings that could take the form of specific methods and tools. The important learning objective of the second year is to instil in the student a sense of confidence about performing as an architect, with an ability to understand that faced with a challenge they can through a process of observation, analysis and design find ways of participating in the improvement of our spatial environment.

Design Studios

Technological Brief

Courses: Architectural Design, Allied Design,

The Second Year Design Studio is a space where students are encouraged to arrive upon architectural gestures through processes that create a framework for dialectical analysis between the concrete specific characteristics of a place and more abstract and/or poetic ways of reading.

Within these the student is enabled to write their own brief for intervention. Architectonically the scales of the project begin with architectural gestures in the first semester with typological exploration in the second. The design of the studios allows for every student to determine her own trajectory and process. In both cases it is important to structure the process as a scaffold upon which the student traces her own path. This scaffolding will have certain benchmarks for different stages by which the path can be designed based on the journey of the student. The second semester project often dovetails with the Measured Drawings done on the study trip. In both projects there is often an attempt to introduce the students to contexts and communities that are unfamiliar to them. It is hoped that through this process they also develop an empathetic relationship with communities that might at first glance seem completely different from them. It is these contexts that the students are asked to arrive upon architectural interventions. The kinds of projects that emerge investigate imaginations of the domestic, community and the role of architecture. The Allied design studio is imagined as a Skill Lab where the students would arrive upon formal strategies through the investigation of a material through acts of making. It is a space for intuitive and hands-on learning in the beginning that leads to design strategies in the latter half.

The Technology and Representation Studios

Tactile and Tectonic

Tactile and Tectonic

Courses: Technology Studio, Environmental Studies, Technology Lecture 1, Technology Lecture 2, Theory of Structures, Tectonic Studies

The Second Year Technology studio takes the largely intuitive understanding of technology gained in the First Year and layers it with more analytical frameworks. Exercises encourage students to discover the principles of the structure and their manifestations. Measured drawing exercises are emphasised so that students are able to make the connection between the observed and the represented. The study trip also allows the student to see material cultures as tectonic solutions along with construction processes that emerge within specific geographic social and economic systems. This year also looks at introducing the students to resources and their relationship with building systems like water and energy. Simulated building workshops and measured documentation of study trips enables the above learning objectives along with field trips, lectures using demonstration tools and case examples.

The Study Trip

The study trip focuses on the relationship between context, climatic, geographic and cultural to architectural form and tectonics using detailed measured drawings. Contexts are chosen from the pre-independence era all over the country. There is also an attempt made by the studio to create knowledge about sites and contexts that have been ignored by mainstream writings of architectural history. These drawings become the basis of an exhibition and publications that add to the archive of architectural history in the country.

Architectural Theory

Courses: Sources of the Self (Visual Studies) , Thinking Through Form (Architectural Theory)

The course intends to expose students to the concerns / concepts / methods and tools of cultural practices and allow them to analyse them critically with respect to their contexts. The focus of the year is on twentieth century cultural practices and attempts to bridge disciplines through common concerns. Another focus is on unpacking concepts of the contemporary through focusing on ideas of 'Indian modernity'. The course will examine some of the main theoretical concerns of cultural practices in the 20th Century. Through a historical lens it will draw parallels between the world of ideas, historical contexts, cultural practices and architecture. The course will be loosely structured as a history of 20th century architecture covering the modern and 'post-modern' moments. The course will be structured as a seminar where students will present an architect/artist/movement followed by a discussion.

History Course

Power and authority seek legitimacy and domination through its manifestation in the built form. This semester examines how social systems and public institutions mediate and negotiate power through architecture to ensure control, stability and supremacy. The onset of the mercantile mode of production also gave rise to expansionism and the earliest forms of capitalism.

Tenet of Power, Authority / Paradigm of Superlative History of architecture of public places and institutions | Greek Architecture | Roman Architecture | History of Byzantine Architecture | Islamic Architecture

Humanities Courses

The First Year humanities course will investigate the relationships between social institutions (Kinship, property, gender, religion, caste, class, etc) and space. Through a functional analysis (that explains the persistence of these institutions through latent, unintended or unrecognized functions they fulfil) it will encourage students to read and analyze human settlements and elements of the built environment.

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Semester 3

Scheme of Teaching and Examinations

Scheme of Teaching and Examinations
Bachelor of Architecture (B. Arch.) Semester III

	Semester III Exam conducted by individual colleges	Teaching Scheme		Credits		
Sub. No.	SUBJECTS	Lecture	Studio	Theory	Studio	Total
301	Architectural Design Studio		6		6	6
302	Allied Design Studio		3		3	3
303	Architectural Building Construction	3	3 classes Technology studio	3	1	4
304	Theory and Design of Structures	2		2	1	3
308	Architectural Building Services	2		2	1	3
305	Humanities	3		3		3
306	Environmental Studies	2		2		2
307	Architectural Representation & Detailing	2	2	2	2	4
309	Architectural Theory	2				2
320	College projects		3			3
321	Elective		3			3
	Total	16	20	16	20	36

	Semester I II Exam Exam conducted by individual colleges	Examination Scheme			
Sub. No.	SUBJECTS	Theory (paper)	Internal	External viva	Total
301	Architectural Design Studio		100	100	200
302	Allied Design Studio		100		100
303	Architectural Building Construction	50	50		100
304	Theory and Design of Structures	50	50		100
308	Architectural Building Services	50	50		100
305	Humanities	50	50		100
306	Environmental Studies		50		50
307	Architectural Representation & Detailing		100		100
309	Architectural Theory		50		50
320	College projects		100		100
320	Elective		100		100
	Total				1100

Semester 3

Semester 3

Time-Table

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
8.00 - 8.50	**Architectural Building Construction**		**Architectural Design & College Project**		**Allied Design & TOS**		**Building Services**		**Architectural Design & College Project**			
	303	*4*	*301*	*3 of 6 / 1 CP*	*302*	*3 of 3/ 1 tos*	*308*	*2*	*301*	*3 of 6 / 1 CP*		
8.50 - 9.40	Mamta	Vikram	Pinkish	Nemish	Parnavi	Hussain	Durvesh	Minal	Pinkish	Nemish		
	Shirish	Shantanu K	Rutika	Rohan C	Mannsi	Ginella	Kimaya	Vivek, Sanjana	Rutika	Rohan C		
9.40 - 10.30		Rutika	**Advait**	Nishita	Kaushik	George	**Environmental Studies**		**Advait**	Nishita		
			Shilpa	Pratyusha		Avanni	306	2	Shilpa	Pratyusha		
10.30 - 11.20			TA - Rishabhh				Durvesh	Minal	TA - Rishabhh			
							Kimaya	Sanjana				
11.20 - 12.00												
12.00-12.50	**Humanities**		**Architectural Representation and Detailing + Building Services**		Encounter				**Architectural Theory & College Project**			
	305	3	307	2 ARD, 1 Services					309	2 AT + 1CP		
12.50 - 1.20												
1.20 - 2.10	Sara	Ginella	Kimaya	Rutika,	**Theory of Structures**		**Architectural Representation and Detailing**		**Architectural Theory & College Project**			
					304	2	307	2 ARD	309	2 AT + 1CP		
2.10 - 3.00			Mamta	Ginella	Rajitha	Ainsley	Paul	Ginella	Manoj	Rutika		
			Kausik	Vikram		Neeraj	Kaushik					

301/320						
	COURSE NAME	ARCHITECTURAL DESIGN STUDIO + COLLEGE PROJECTS	SEMESTER	THREE	CREDITS	STUDIO - 6 AD +2CP
	FACULTY	SONAL SANCHETI, NEMISH SHAH, ADVAIT POTNIS, PINKISH SHAH, JIGNESH DOSHI, QUAID DOONGERWALA, ROHAN CHAVAN TA: ?	SESSIONAL MARKS	INTERNAL 100 EXTERNAL 100 MINIMUM 50 MARKS PASSING	SCHEME OF EXAMINATION	INTERNAL 100 EXTERNAL 100 EXAM CONDUCTED BY COLLEGE
	TIME	TUES - 8 -10:30 AM FRIDAY - 8 -10:30 AM	TEACHING HOURS	108 PERIODS OF 50 MINUTES DURATION - 90 HOURS	TIME REQUIRED OUTSIDE OF	6 HRS/WEEK

UNIVERSITY COURSE DESCRIPTION	*OBJECTIVES -Understanding space requirements for various activities for small groups of people. Understanding indoor and outdoor spaces created by built forms.* *DESIGN OBJECTIVES - Design of spaces suitable for intended activity, Design of spaces as per behavioral needs of individuals and groups, Design and Detailing of built form and required infrastructure with reference to methods of construction and materials.* *DESIGN PROJECTS - Built and unbuilt spaces for multiple activities for a small group of people. Built and Unbuilt spaces for relatively larger groups*
PEDAGOGIC INTENT	*At the heart of human life is the home. It is both symbolic and physical. It is also the space of belonging, of intimacy and of desire. It is in fact, the most significant, and also the most overlooked, cultural artefact of any society. Part of our daily life, the home exists, partly as nostalgia, partly as a refuge from the world, and partly as the site of our desires. It is the site of our past, present and also our future. Much of our ability to understand and make sense of the world comes from the place that we inhabit. It is what gives us a sense of our identity, of who we are and who we will or want to be in this world. Dwelling is, as Heidegger says, Being. Living in a house, a home, is synonymous to existing in the world.* ***It is the INTENT of the STUDIO to engage the student with the space of the HOME, and the Idea of DOMESTICITY. To Understand, through Example, through Research and through Design, the different aspects of Architecture at a Domestic Scale.***
METHODOLOGY	The Overall Studio is divided into 2 main parts. Part 1 is mainly study and research, but will be further subdivided into 2 parts of 3 weeks each. In the first 3 weeks, the student will start with the world they live in and inhabit everyday and are most familiar with. They will investigate their own personal domestic space such as their house or room and select fifty objects that are within this space. They will study, measure and document these objects through different mediums, and by putting this collection of mundane objects together, come to an understanding of the space they inhabit. In next 4 weeks, the class will dwell on the IDEA of the HOUSE. We will start by reading a few iconic essays such as Colin Rowe's, *The Mathematics of the Ideal Villa* ; Reyner Banham's, *A Home is not a House;* M N Ashish Ganju's, *A retreat in Vrindavan* , parts of Charles Correa's A New Landscape and The Blessings of the Sky and other such works. Along with this reading, the students will also do Architectural Close Readings of some of the most polemical Architectural Houses in history. Examples for study will be, Buckminister Fuller's Dymaxion House, Le Corbusier's Domino House, Charles Correa's Tube House, Frank Lloyd Wright's Praire House, Charles and Ray Eames's Experimental House, Laurie Baker's Brick Houses etc. the Traditional Indian Kerala House or the Himalayan house etc.. Students will be divided into groups of 3-4 each and each group will undertake adetailed study of the project, along with a understanding of the reason, contexts and intentions which allowed the house to be designed as such. The group will study the house through re-tracing the drawings, sketches, models - all in an effort to understand the essential architectural, cultural and technological ideas behind the architecture. Through these methods of seeing, the student will, individually, come to a conceptual framework that is important for the idea of the DOMESTIC SPACE. A small, 1 page Essay or Manifesto is essential for the student to write and formulate their own Conceptual Framework. This will be the final deliverable for this part of the excercise. The Second Part of the Studio will have a duration of 8 Weeks, and here, based on the conceptual framework built above, each student will be asked to design an **EXPERIMENTAL HOUSE / LIVING ENIRONMENT** measuring 150-200 sqm. They must choose any one parameter from the previous exercise which they would like to work with and design the house. It would be situated in a real location, and a site would be chosen / decided by the student. The idea is that these experimental houses will sit on adjacent plots and provide a sereis of ideas and positions, relevant in today's time, and place - and if not provide the answers, atleast pose the right question for the idea of Dwelling.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Tuesday	11-6-19	Introduction to 2nd year Brief discussion of 1st year Studio and Review of Selected Projects. **Introduction of the project.**		
	Friday	14-6-19	Collection of 50 Objects		Objects with description
week 2	Tuesday	18-6-19	Collection of 50 Objects		Short-listing of the objects after discussion with the faculty.
	Friday	21-6-19	Collection of 50 Objects		Documentation
week 3	Tuesday	25-6-19	Collection of 50 Objects		Documentation
	Friday	28-6-19	**EXHIBITION** - 50 Objects	10%	Each student will be given a specific amount of space in which to organise all the 50 objects in such a manner as to evoke the idea of a dwelling. The exhibition can contain either the actual object or a drawing / documentation of that object.
week 4	Tuesday	2-7-19	Introduction to Part 2 - Discussion with the students about idea of Dwelling - meaning of the House and also the reading provided to them Faculty Presentation on Various Ideas of the Dwelling throughout the History of Architecture - From the House as a Cosmos, to the House as a Machine to Live in.		Groups will be formed and each group will select a particular House / House type for their study.
	Friday	5-7-19	DESK CRIT - First cut of documentation / Gathering Information.		Sketches / Plans / Drawings
week 5	Tuesday	9-7-19	DESK CRIT - Documentation / Study		
	Friday	12-7-19	Introduction to the ESSAY (Discussion of various parameters, significant to the Idea of House / Dwelling in Mumbai, India - today in the world in 2019.		Sketches / Plans / Drawings
week 6	Tuesday	16-7-19	**Rough Draft of the ESSAY**		
	Friday	19-7-19	**JURY (Documentation and Presentation of the House and submission of individual Essay)**	10%	**Essay and Documentation. Final Format to be Decided.**
week 7	Tuesday	23-7-19	INTRODUCTION TO THE HOUSE PROJECT - CLASS DISCUSSION ABOUT THE ESSAY and the Various ETHICAL / AESTHETIC / ECONOMIC / SOCIAL and CULTURAL Issues relevant to the production of the HOUSE / DWELLING / LIVING ENVIRONMENT in todays time.		
	Friday	26-7-19	DESK CRIT		Conceptual Development (Fundamental Ideas of the HOUSE)
week 8	Tuesday	30-7-19	DESK CRIT		Conceptual Development (Fundamental Ideas of the HOUSE)
	Friday	2-8-19	DESK CRIT		Conceptual Development - Models / Volumetric Ideas
week 9	Tuesday	6-8-19	DESK CRIT		Conceptual Development - Models / Volumetric Ideas
	Friday	9-8-19	Interim JURY - Interim Review of the Conceptual Idea of the PROJECT.	10%	Conceptual IDEA / Drawings / Sketches - to scale / Conceptual Models
week 10	Tuesday	13-8-19	DESK CRIT		Design Development / Detail Plans / Detail Sections
	Friday	16-8-19	DESK CRIT		Design Development / Detail Plans / Detail Sections
week 11	Tuesday	20-8-19	DESK CRIT		Design Development / Detail Plans / Detail Sections
	Friday	23-8-19	Lecture: **Representation Techniques**		Design Development Exercise - At this point, it is also imagined that the students will work out appropriapte representative methods for their own projects. Now, Instead of relying on only tradtional methods of architectural represenation, the student will be urged to develop new, and unique methods of representation which allow them to express their ideas and designs in better, and more innovative ways.
week 12	Tuesday	27-8-19	DESK-CRIT		Design Development / Detail Plans / Detail Sections
	Friday	30-8-19	DESK-CRIT		Design Development / Detail Plans / Detail Sections
week 13	Tuesday	3-9-19	DESK-CRIT		Design Development - Material / Structure
	Friday	6-9-19	DESK-CRIT		Design Development - Material / Structure
week 14	Tuesday	10-9-19	PRE-FINAL JURY	20%	All PLANS / SECTIONS ELEVATIONS in a Manner / Medium appropriate the Conceptual Framework of the Project. Study Model at 1:100. All Conceptual Models.
	Friday	13-9-19			
week 15	Tuesday	17-9-19	DESK CRIT		
	Friday	20-9-19	DESK CRIT		
week 16	Tuesday	24-9-19	Representation Week		
	Friday	27-9-19	Representation Week		
	Saturday	**28-9-19**	**FINAL JURY**	30%	Max 3 No.s A1 Size Panels. Final Working Model at 1:100 Scale
				80%	

EVALUATION CRITERIA	In the first part of the Studio, the student will be evaluated based on their ability to undertake research and ask the required questions and come to appropriate conclusions based on their findings. The Essay, or their understanding of the current situation of the World will be a very important part of this. In the Second part the student will be evaluated on their abiloty to come up with design concepts, based on fundamental issues (raised by themselves) and from those deisgn concepts reach an appropriate Architectural Design Strategy. It is clear that its not only the final answer / solution that is important but also, the process a student undergoes which constitutes a large part of their understanding and therefore is critical to their evaluation.
LEARNING OUTCOMES	It is imagined that the student will learn to **OBSERVE** objects / things / spaces at all different **SCALES** and document them, providing them a level of understanding that is more than just that of anthopometrics. Ideas such as those if EMPATHY / HUMANITY / UNDERSTANDING should become integral to their way of seeing the world. Through these observations, they will learn how to **FORMULATE CONCEPTS** and think of **FUNDAMENTAL IDEAS**. Finally it is hoped that based on these **CONCEPTS,** they are able to formulate **PROGRAMATIC IDEAS** and **FORMAL IDEAS** and using various methods **REPRESENT** these in an appropriate format.
READING LIST	to be given..

CO-PO mapped syllabi of B.Arch. Course 2019-2020 – Architectural Design

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architecture Design Studio
Course Code: 301 **Sem 3** **Name – Second year**

Course Objectives:

- To enable students to develop their own understanding of formal ideas along their developed concepts.
- To be able to formulate programmatic ideas based on the concepts developed
- To be able to construct ideas of drawings and representations in appropriate formats so as to convey their concepts and design processes.
- To enable them to familiarize with the techniques / processes and devices used by different architects as modes of production and also build within them a vocabulary to develop their own design strategies.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand questions around scale and ideas of anthropometrics
CO2	To understand and observe various spaces, objects, things at different scales and document them in form of conceptual ideas and drawings
CO3	To create investigation methods around ideas of forms through models (Operating in different materials), drawings etc.
CO4	To analyze ideas of home and develop broader ways of seeing at fundamental concepts of domesticity.
CO5	To create different modes of representations by imagining spaces at various scales to help students in producing well resolved complete set of drawings (plan, sections and elevations)

Rubrics

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**University Subject Code**	**Sessional Marks:**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
Second Year SEM 3	**Architectural Design**	**301**	**100**	**100**	**6AD + 2 CP**	28/09/2019		
Exercise: Title	Dwelling and Domesticity								
Exercise Note / Task	Students will be asked to design an EXPERIMENTAL HOUSE / LIVING ENVIRONMENT measuring 80-100 sqm At the beginning, the students will be provided with a series of VERB / NOUN associations. The VERB will be the action element of the pair whereas the NOUN is the place / character element of the pair. Once the site of intervention is decided by the student, she will study it for an appropriate actor for who a place of living has to be designed. This Place / Dwelling / Environment, will be designed, taking off from the formal studies undertaken using the action VERB - but at the same time, understanding the nuances, contexts and relationships that emerge from the NOUN / Site. The idea is to NOT, build a traditional type of dwelling, but a place that brings out the hidden, concealed, unknown and unacknowledged orbits of Domesticity.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Attendance and participation in the studio	95% to 100% attendance and extremely participative along with taking complete responsibility of the studio assignments	1 90% to 95% attendance and visibly very participative along with sharing responsibilities of studio assignments	1 85% to 90% attendance and visibly participative along with sharing responsibilities of studio assignments	75% to 85% attendance and participative along with sharing responsibilities of studio assignments.	70% to 75% attendance and participative along with sharing responsibilities of studio assignments only when asked	65% to 70% attendance and less participative alongwith sharing responsibilities of studio assignments only when asked.	155% to 65% attendance and participative in the studio only when asked	50% to 55% attendance and not participative in the studio	Below 50% attendance and mostly absent in the studio
Developing a comprehensive conceptual idea and translation of the same in formal expression.	Highly Outstanding understanding of concepts and formal translation and completing innovative high quality drawings	Moderately Outstanding understanding of concepts and formal translation and innovative high quality drawings	Outstanding understanding of concepts and formal translation and innovative moderately high quality drawings	Excellent understanding of concepts and formal translation and completing the drawings excellent quality of drawings	Very Good understanding of concepts and formal translation and completing the drawings very good t quality of drawings	Good understanding of concepts and formal translation and completing with good quality drawings	Mediocre understanding of concepts and formal translation and completing with mediocre quality of drawings	Low but decent understanding of concepts and formal translation completion of drawing sets with low quality	Poor understanding of concepts and formal translation not completion of drawing sets with low quality drawings
Proactiveness while on site study and group assignments to organize and complete the worjk	Extremely involved in taking lead and completing the group work with extraordinary innovative drwaings	Moderately but seriously involved in taking lead and completing the group work with highly innovative drawings	Less moderately but seriously involved in taking lead and completing the group work with very good quality drwaings	Seriously involved in taking lead and completing the group work with very good quality drawings	Less Seriously involved in taking lead and completing the group work with very good quality drawings	Just for the sake involved in taking lead and completing the group work with very good quality drawings	Not much active in site work but completing the requirements for own	No active participation in class and partial completion of the work	Disinterested

COPO Mapping Setup for Sem 3

CO-PO mapping for a course of "UG Program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To understand questions around scale and ideas of anthropometrics	1	3	2	2	0	2	2	0
CO2	To understand and observe various spaces, objects, things at different scales and document them in form of conceptual ideas and drawings	2	3	1	3	0	3	3	0
CO3	To create investigation methods around ideas of forms through models(Operating in different materials), drawings etc.	0	2	3	0	0	0	0	1
CO4	To analyze ideas of home and develop broader ways of seeing to fundamental concepts of domesticity.	3	2	3	3	3	3	3	0
CO5	To create different modes of representations by imagining spaces at various scales to help students in producing well resolved complete set of drawings (plan, sections and elevations	1	2	1	0	2	0	0	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

302	COURSE NAME	ALLIED DESIGN	SEMESTER	Sem 3	CREDITS	3
	FACULTY	HUSSAIN INDOREWALA, GEORGE JACOB, MANSI BHATT, GINELLA GEORGE, SAURABH BARDE,	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	INTERNAL
	TIME	8:00-11:20	TEACHING HOURS	3 HRS	TIME REQUIRED OUTSIDE OF CLASS	-
what	UNIVERSITY COURSE DESCRIPTION	*Allied Design*				
why	PEDAGOGIC INTENT	This studio is build around the idea of a 'skill lab' with the intent to explore different materials and techniques. It will explore different modes of making, emphasizing on joineries and appropriate tools.				
how	METHODOLOGY	The studio will be organized around 2 tasks : the first will require students to produce objects for which shop drawings will be provided by the faculty. The second task will pair students based on brining two materials togethers inorder to explore joineries and resultant use / application. This exercise will culiminate into preparing a booklet of joineries for further refernce for the students and the course.				

when

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Wednesday	12-Jun-19	Task 1: Sliced Objects	20	A2 size drawing sheet of the object
week 2	Wednesday	19-Jun-19	Task 2: same material assembly		
week 3	Wednesday	26-Jun-19	Task 2 review		
week 4	Wednesday	03-Jul-19	Task 2 marking	10	Assembles Object (Frame)
week 5	Wednesday	10-Jul-19	Task 3: pairing different materials		
week 6	Wednesday	17-Jul-19	Task 3 review		
week 7	Wednesday	24-Jul-19	Task 3 review		
week 8	Wednesday	31-Jul-19	Task 3 marking	30	An inventory of joinery
week 9	Wednesday	07-Aug-19	Task 4: Intorduction to the making of shop drawings or detailed drawing of the joinery		
week 10	Wednesday	14-Aug-19	Working Studio		
week 11	Wednesday	21-Jul-19	Task 4 : Mid Review	10	Drawing Plates
week 12	Wednesday	28-Aug-19	Working Studios		
week 13	Wednesday	04-Sep-19			
week 14	Wednesday	11-Jul-19			
week 15	Wednesday	18-Sep-19	Pre final review		
week 16	Wednesday	25-Sep-19	Task 4: Final Jury	30	Exhibition

EVALUATION CRITERIA	Evaluation will be for each task - the first and second tasks will have a weightage of 30% while the third and fourth task will have a weightage of 70%.
LEARNING OUTCOMES	An exposure to range of materials, their joinery details and modes of making. This will develop confidence amongst students to use modelling / constructing as a way of thinking and enabling iterations in theire design projects.
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020_Allied Design 3

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)

6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Allied Design 3 **Sem: 3** **Second Year**
Course Code: 302

Course Objectives:

- To develop knowledge and applicability of building materials based on their respective properties and characteristics.
- To engage with and identify suitable scales and proportions alongwith developing accuracy while building objects.
- The development of ideas based on available constraints stemming from challenging contexts or material limitations.
- To help students develop individual processes for design.
- To develop evaluation methods for testing the feasibility of the designed product thus achieving higher degree of precision.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand the spatial and functional aspects influencing the form of the object.
CO2	To apply and analyze the design idea by physically building the object through an iterative process.
CO3	To evaluate the design for the desired function and precision.
CO4	To create designs that utilize material properties and other constraints set in the studio.

Rubrics :

Year of Assessment: 2019 - 2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks:**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
THIRD YEAR - SEM 5	**Allied 3**		**302**	**100**	**100**	**3+1(TOS)**	**25/09/19**		
Exercise: Title	Assemblies								
Exercise Note / Task	The studio will be organized around 2 tasks : the first will require students to produce objects for which shop drawings will be provided by the faculty. The second task will pair students based on brining two materials together inorder to explore joineries and resultant use / application. This exercise will culiminate into preparing a booklet of joineries for further refernce for the students and the course. The final stage will also be evaluated under TOS.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Attendance and participation in the studio	95% to 100% attendance and extremely participative alongwith taking complete responsibility of the studio assignments	90% to 95% attendance and visibly very participative alongwith sharing responsibilities of studio assignments	85% to 90% attendance and visibly participative alongwith sharing responsibilities of studio assignments	75% to 85% attendance and participative alongwith sharing responsibilities of studio assignments	70% to 75% attendance and participative alongwith sharing responsibilities of studio assignments only when asked	65% to 70% attendance and less participative alongwith sharing responsibilities of studio assignments only when asked	55% to 65% attendance and participative in the studio only when asked	50% to 55% attendance and not participative in the studio	Below 50% attendance and mostly absent in the studio
Ability to build the prototype object and accuracy in tolerances based on the drawings	95% to 100% tolerance and finish of the object	90% to 94% tolerance and finish of the object	85% to 89% tolerance and finish of the object	80% to 84% tolerance and finish of the object	70% to 79% tolerance and finish of the object	60% to 69% tolerance and finish of the object	55% to 59% tolerance and finish of the object	50% to 54% tolerance and finish of the object	Below 50% tolerance and finish of the object
Ingenuity at composing parts of the design together	Premier accuracy in skill set involved to make the object and understanding the character and properties of the material. Prefection and complete display of ingunity.	Fine accuracy in skill set involved to make the object and understanding the character and properties of the material. Having prospect of achieving perfection.	Outstanding accuracy in making the object and understanding the character and properties of the material but having scope of evolving the overall skill set.	Excellent accuracy and display of skill set involved in making the object. Excellent understanding of the character and properties of the material. Scope of achiveing better result.	Good accuracy within limited skill set involved in making the object and intent displayed to understanding the character and properties of the material.	Good accuracy within limited skill set involved in making the object and loose intent displayed to understanding the character and properties of the material.	Fair accuracy within limited skill set involved in making the object and loose intent displayed to understanding the character and properties of the material.	Need involvment and absolute improvement in skill set to make the object and loose intend displayed to understanding the character and properties of the material.	No involvment and absolute improvement required in skill set involved to make the object and no intend displayed to understanding the character and properties of the material.
Conceptualization of the design	Novel idea, Functional Outcome, Finesse	Outstanding idea, Functional Outcome,	Fair idea, Functional Outcome, Good Make	Acceptable idea, Workable	Acceptable idea, Workable	Average idea/Reproduced (Copied),	Basic/reproduced idea (Copied), Workable	vague/reproduced idea (Copied), Workable	NO outcome

		Very Good Make		Outcome, Good Make	Outcome, Fair Make	Workable Outcome, Fair Make	Outcome, Fair Make	Outcome, Fair Make	
Compatibility and experimentative intention of the idea with the outline of the studio	Most flexible design idea with originality matching the outline of the studio	Flexible enough as a design idea with comparative originality matching the outline of the studio	Flexible with constraints as a design idea with comparative originality matching the outline of the studio	Flexible idea but exhibiting a continuation of an existing idea matching the outline of the studio	Good idea but exhibiting a continuation of an existing idea matching the outline of the studio	Average idea but exhibiting a continuation of an existing idea matching the outline of the studio	Fair idea but exhibiting a continuation of an existing idea matching the outline of the studio	Satisfactory idea but exhibiting a continuation of an existing idea barely matching the outline of the studio	No intent and inclination to develop an idea

COPO Mapping Setup for Sem 3

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To understand the spatial and functional aspects influencing the form of the object.	3	3	3	0	1	2	3	0
CO2	To apply and analyze the design idea by physically building the object through an iterative process.	2	3	3	0	2	1	3	1
CO3	To evaluate the design for the desired function and precision.	2	2	3	2	1	2	3	2
CO4	To create designs that utilize material properties and other constraints set in the studio.	1	2	3	0	0	0	3	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation

0 – No Correlation

BARC 303					
COURSE NAME	Architectural Building Construction and Materials -III	SEMESTER	3	CREDITS	4
FACULTY	Vikram, Mamta, Shantanu, Shirish, Rutika, Adwait	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal
TIME	Monday 08:00- 11:20	TEACHING HOURS	16 sessions of 200 minutes each including lectures and studios	TIME REQUIRED OUTSIDE OF CLASS	12
UNIVERSITY COURSE DESCRIPTION	*Structural framing in RCC for low rise buildings; Foundation systems, Floor Systems, Wall Systems, Staircases, Roof Systems; Moisture and Thermal protection in RCC framed low Rise buildings; Movable light weight partitioning and paneling, Stairs in Interior*				
PEDAGOGIC INTENT	*Exploring elements of a simple built form, structural systems (Comparisons of load bearing with RC frames and steel structures), and weatherproofing details;* *• developing analytical skills for conjecturing structural hierarchy in an observed built form- Preparation for study trip*				
METHOD	**Introduce and orient through lectures, Expose to sites and case studies and simulate exercises & resolve problems and designs.**				

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Monday	3-Jun-19	describe the subject matter to be taught		
week 2	Monday	10-Jun-19	Recap of load bearing structures		
week 3	Monday	17-Jun-19	Introducing Self House Measure Documentation exercise		
week 4	Monday	24-Jun-19	Comparison between RC frame and Self House Measure Documentation	20	
week 5	Monday	1-Jul-19	Walls and Fenestrations- Construct, thicknesses, Supporting the spans above Fenestrations;		
week 6	Monday	8-Jul-19	Reinforced Concrete and Masonary		
week 7	Monday	15-Jul-19	Self House Measure Documentation		
week 8	Monday	22-Jul-19	Site identification and discussion for		
week 9	Monday	29-Jul-19	Resolution studio 1		
week 10	Monday	5-Aug-19	Staircase lecture	10	
week 11	Monday	12-Aug-19	Resolution studio 2		
week 12	Monday	19-Aug-19	Possibilities in brick construction		
week 13	Monday	26-Aug-19	Standalone house resolution	10	
week 14	Monday	2-Sep-19	Common review	10	
week 15	Monday	9-Sep-19	Weatherproofing	10	
week 16	Monday	16-Sep-19	Final portfolio submission	20	
EVALUATION CRITERIA	*completion of given assignment; extent of exploration/ resolution; representation of resolved solutions.*				
LEARNING OUTCOMES	*Ability to represent technical structure, analytical skills for conjecturing structural heirarchy*				

READING LIST

1]Building Construction : METRIC VOLUME 1&2 BY W.R.McKAY; 2] Building Construction by S.C. Rangwala;

3] Building Construction Illustrated Book by Frank Ching Download link : https://archive.org/details/FrancisD.K.ChingBuildingConstructionIllustratedWiley2014
4]Building Construction Handbook Seventh edition R. Chudley 5] Brick Work by Laurie Baker Download Link :http://costford.com/Brick%20work.pdf , 6]
Rural House plans by Laurie Baker . Download link :http://www.costford.com/Rural%20House%20Plans.pdf 7] Shigeru Ban Projects 8] The Modulor by Le
Corbusier 8] Structure and Architecture by Angus MacDonald 9] The making of the modern architect and Engineer by Ulrich Pfammatter 10] Form and Structure

in Architecture by Alexander ZannosLe Corbusier, "Towards a New Architecture"
Kenneth Frampton. "Modern Architecture" 1985
Anthony Antoniades. "Poetics of Architecture". 1990
Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction,"
Theodor Adorno, "Functionalism Today,"
Peter Bürger, "Theory of the Avant-Garde and Critical Literary Science," Theory of the Avant-Garde
Robert Venturi, "Complexity and Contradiction in Architecture"
Gordon Matta Clark, Art, Architecture and Attack on Modernism
M. Gottdiener. "Postmodern Semiotics" 1995
Venturi, Brown, Izenour, "Learning from Las Vegas"
Martin Heidegger, "Building, Dwelling, Thinking," Poetry, Language, Thought
Kenneth Frampton, "Prospects for a Critical Regionalism", Perspecta

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Building Construction and Materials 3*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognise and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete)
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Construction and Materials 3
Course Code: BARC303 Sem 3 Second Year

Course Objectives:

- The course facilitates the application of theoretical structural concepts relating it to the observed and studied built-form spaces and being able to represent the same.
- Observation of built form and elements and representation as measured architectural drawings.
- Comparative understanding of RCC framed and Load Bearing/ Timber framed composite structures.
- Understanding the construct of vernacular architecture.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand the underlying principles of structural systems and their application.
CO2	To create an analytical framework for observing buildings and their structural systems.
CO3	To apply and represent the learnings about different structural systems in their own designs.
CO4	To be able to gauge the performance of a structure in its geographical, climatic and topographical context and develop sensitivity towards the efficient use of scarce resources.

Rubrics:

Year of Assessment : 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
SECOND YEAR - SEM 3	**ABCM3**		**303**	**100**	**50**	**100**	**Multiple**		
Exercise: Title	Resolution Studio: Documenting and converting their own houses into free standing structures								
Exercise Note / Task	Portfolio submission by students								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
Data Gathering/ monitoring and collating	Showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks

Representation Technique and final submission	Very well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Clear formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Very good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Fairly formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Barely managed to get clarity of intent and study using poor diagrams and sketches	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and understanding of the subject
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem ……3…

CO-PO mapping for a course of "UG program" Architectural Building Construction and Materials 3

Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To understand the underlying principles of structural systems and their application.	2	0	0	1	0	3	2	0
CO2	To create an analytical framework for observing buildings and their structural systems.	1	1	1	2	0	3	2	1
CO3	To apply and represent the learnings about different structural systems in their own designs.	2	3	3	2	0	1	3	2
CO4	To be able to gauge the performance of a structure in its geographical, climatic and topographical context and develop sensitivity towards the efficient use of scarce resources.	3	3	3	3	0	2	3	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 304						
	COURSE NAME	Theory and Design of Structures	SEMESTER	III	CREDITS	3 (2 TOS + 1 Allied Design)
	FACULTY	Rajitha, Ainsley, Neeraj	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Written Paper: 50
	TIME	1.20-3.00	TEACHING HOURS	2.5	TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	Theory of Simple Bending, Deflection in beams, Direct and bending stresses, Basics of RCC and Material Testing
PEDAGOGIC INTENT	Understanding of basic theories and principles of structural analysis. Study the behaviour of structural elements under various load conditions
METHODOLOGY	Various mediums will be used to explain the concepts, like videos, presentation, hands-on experiments with spaghetti sticks, ice cream sticks etc. Sharing experiences with class in accordance to one's learnings.

SCHEDULE	Day	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
Week 1	Wednesday	12-Jun-19	Introduction and history of concrete		
Week 2	Wednesday	19-Jun-19	Basics of RCC, grades of concrete and steel. Introduction to concrete technology. Placement of steel based on bending moment and shear force diagrams		
Week 3	Wednesday	26-Jun-19	Continuation to the previous week's topic. In addition to that conduct an experiment with a goal to learn the aspects of RCC.		
Week 4	Wednesday	03-Jul-19	Theory of simple bending, derivation of key formula and its explanations		
Week 5	Wednesday	10-Jul-19	Continuation to the previous week's topic. Designing a Bicycle Stand with RCC as construction material. Working out the calculations for understanding the dimensions of the design and making its prototype in class.		
Week 6	Wednesday	17-Jul-19	Introduction to the concept of shear stresses distribution in beams and its relevance in construction. Analysing shear stress distribution and derivation of key formulae. Work on numerical with examples		
Week 7	Wednesday	24-Jul-19	Understanding of Direct and Bending stresses in columns, footings and beams. Application of the same in design columns and walls.		
Week 8	Wednesday	31-Jul-19	Class Test		
Week 9	Wednesday	07-Aug-19	Explanation of axial stresses in beams and other structural members and analysis of deflections		
Week 10	Wednesday	14-Aug-19	Introduction to deflections in beams with simply supported and cantilevers ends.		
Week 11	Wednesday	21-Aug-19	Solving numerical problem for deflections in beams, with the methods stated above		
Week 12	Wednesday	28-Aug-19	Developing an intuitive understanding of how structures deflect under forces and behaviour with respect to different structural elements		
Week 13	Wednesday	04-Sep-19	Continuation to the previous week's topic.		
Week 14	Wednesday	11-Sep-19	Class Test		
Week 15	Wednesday	18-Sep-19	Discussion on Principal stresses and how it is derived for beams. Its significance in reinforcementlayout.		
Week 16	Wednesday	25-Sep-19	Conduct an experiment with a goal to learn the aspects of bending, tension and compression using spaghetti sticks/ice cream sticks.		
Week 17	Wednesday	09-Oct-19	Study properties of materials like Cement, Sand and Bricks. Introduction to various conventional testing methods for the same.		
Week 18	Wednesday	16-Oct-19	Revision		

EVALUATION CRITERIA	basis for judgement of assignments and priority of parameters for evaluation if any
LEARNING OUTCOMES	
READING LIST	Strength of Materials by Rammruthum, Foundation Engineering by B.C. Punmia and P.C. Varghese

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Theory and Design of Structures 3*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Theory and Design of Structure 3
Course Code: BARC 304

Sem 3

Name - 2nd Year

Course Objectives:

- Understanding of basic theories and principles of structural analysis
- Understanding of properties of materials relevant to structural analysis
- Understanding of the behavior of structural elements under various conditions

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Introduction to concrete as a structural material, its inherent properties, advantages, and shortcomings.
CO2	Develop an intuitive understanding of the structural components – beams, columns and footing; the stresses involved during the load transfer
CO3	Understand the behavior of the material and structural member (deflection, bending etc.) and application of same in the structural planning
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional.

Rubrics:

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
SECOND YEAR - SEM 3	Theory and Design of Structures 3	BARC 304	BARC 304	50	50	3 (2 TOS + 1 Allied Design)			
Exercise: Title	Various tests related to concrete and cement & its applications								
Exercise Note / Task	Assignment + Test								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Data Gathering/ monitoring and collating	All data to be collected from reliable sources with references included in the reports. Exceptional in Showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected.	All data to be collected from reliable sources with references included in the reports. Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with most references included in the reports. Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks
Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
In-depth understanding a theory and its application in the architectural field	Exceptional analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Very well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Excellent curation using outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation.	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
Representation Technique and final submission	Very well formatted presentation explaining concepts, process	Well formatted presentation explaining concepts, process adopted using	Clear formatted presentation explaining concepts, process adopted using	Very good formatted presentation explaining concepts, process	Good formatted presentation explaining concepts, process adopted using	Fairly formatted presentation explaining concepts, process adopted using	Barely managed to get clarity of intent and study using poor	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and understanding of the subject

	adopted using various tools and techniques	various tools and techniques	various tools and techniques	adopted using various tools and techniques	various tools and techniques	various tools and techniques	diagrams and sketches	
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem 3

CO-PO mapping for a course of "Theory and Design of Structures 3"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Introduction to concrete as a structural material, its inherent properties, advantages, and shortcomings.	3	1	1	1	1	3	0	1
CO2	Develop an intuitive understanding of the structural components – beams, columns and footing; the stresses involved during the load transfer	3	3	1	0	0	1	1	1
CO3	Understand the behavior of the material and structural member (deflection, bending etc.) and application of same in the structural planning	2	2	2	0	1	3	2	1
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional.	2	1	3	2	2	2	2	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 305					
	COURSE NAME	Humanities 3	SEMESTER	III	CREDITS	3
	FACULTY	Sarah George, Ginella George	SESSIONAL MARKS	Internal - 50	SCHEME OF EXAMINATION	Theory Paper - 50
	TIME	Monday 12.00-12.50,1.20-3.00	TEACHING HOURS	Lecture	TIME REQUIRED OUTSIDE OF CLASS	None
UNIVERSITY COURSE DESCRIPTION	The study of the socio-cultural circumstances, the art and the architecture of the following: The decline of the Roman Empire, Early Christian architecture, The Byzantine age, The Romanesque age, Medieval Europe, The Gothic age, The rise of Islam and its impact on Europe, The Crusades and their aftermath; the fall of Constantinople, The Renaissance in Italy, The rediscovery of the Classical past and its impact on art, architecture, science and philosophy, Humanism, Mannerism, The Renaissance in the rest of Europe, The Reformation, its impact on art and architecture, The Counter-Reformation, Baroque art and architecture,					
PEDAGOGIC INTENT	The History of Architecture course at the KRVIA primarily attempts to enable the student to ingest notions of one's own cultural identity. The course goes beyond the taxonomical method of categorising and describing the physical aspects of the historical object to include the purpose of its making. The mode of production of the mercantile economy further continues in these semesters and investigates into the production of the built environment in India and the world.					
METHODOLOGY	The course adopts the modes of production as a chronological system to discuss the ideas that lead to a production of architecture. History is thus, seen and discussed as an understanding of processes - an intersection of belief, technology and social structure. The course uses the lens of political economy to understand the production of architecture.					

SCHEDULE	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	10.06.2019	Introduction to the course		
week 2	17.06.2019	God spoke to the priests – Male order Indian Caste System, Vedas, Progeny, Divine Rights Theory		
week 3	24.06.2019	God spoke to the priests – Position of women Devdasi system, The Oracle, Acropolis		Introduction to term paper submission
week 4	01.07.2019	Body being worshipped Greek temple, Strength – Hercules, Achilles – military cities,		
week 5	08.07.2019	Body being worshipped Sexuality – Aphrodite, Khajuraho, Tantricism – Chausath Yogini mandir	10 marks	Drawing Assignment
week 6	15.08.2019	Pantheon of Gods Supernatural, Tumulus mound		
week 7	22.07.2019	Underworld/Heaven Varanasi, Sacred geography, Teoti huacan		
week 8	29.07.2019	Underworld/Heaven Varanasi, Sacred geography, Teoti huacan	5 marks	Submission of first draft of paper
week 9	05.08.2019	Man as God Augustus' Forum, Buddhism		
week 10	12.08.2019	Rise of Christianity Alternative church forms, Hagia Sophia, Byzantium, Church squares		
week 11	19.08.2019	Hermits Monasteries, Viharas, Caves		
week 12	26.08.2019	Renaissance & the age of discovery	5 marks	Submission of second draft of paper
week 13	02.09.2019	Holiday		
week 14	09.09.2019	Colonization and the worls order		
week 15	16.09.2019	Colonial Architecture and Climate in Asia and Africa	30 marks	Final Submission of term paper
week 16				

EVALUATION CRITERIA	The student will be evaluated on the basis of two submissions. One is a Term paper, due at the end of the semester with periodic draft submssions. This submission is 75% of the total weightage. The second assignment is a drawing assignment do be done in class and is 25% of the total weightage.
LEARNING OUTCOMES	1. Understanding Architecture as an outcome of socio cultural processes 2. Writing Architectural History 3. Unpacking history as interpretations rather than a sacred record
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Humanities 3

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Humanities 3
Course Code: BARC 305 **Sem 3** **Second Year**

Course Objectives:

- To understand architecture as an outcome of socio cultural processes.
- To unpack histories as interpretations rather than as a text.
- To write an architectural history.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understanding architecture as an outcome of socio cultural processes
CO2	Analysing historical ideas and their implications on architectural form
CO3	Adopting the modes of production as a chronological system to discuss the ideas that lead to a production of architecture

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**		**University Subject Code**		**Sessional Marks:**		**Exercise: Marks out of**	**Credits**	**Date of submission**
SECOND YEAR - SEM 3	**Humanities 3**		**BARC 305**		**50**		**50**	**3**	
Exercise: Title	Essay								
Exercise Note / Task	The student will be evaluated on the idea that they will put forth in the paper. An interim discussion will be to assist the student to articulate the idea.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Discussion through references	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Analysis and Ideas	Innovative. Experimental and Bold Clarity.	Very impressive. Highly demonstrative.	Excellent presentation of ideas.	Very good attempt to present ideas.	More than adequate attempt to present ideas.	Just adequate attempt to present ideas.	No further enquiry.	No further enquiry.	Does not complete the assignment
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 3

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understanding architecture as an outcome of socio cultural processes	2	2	1	2	0	3	3	3
CO2	Analysing historical ideas and their implications on architectural form	1	2	0	0	1	3	2	3
CO3	Adopting the modes of production as a chronological system to discuss the ideas that lead to a production of architecture	1	0	0	0	0	3	2	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 306						
	COURSE NAME	Environmental Studies II	SEMESTER	3	CREDITS	2
	FACULTY	Kimaya Keluskar , Durvesh Mhatre, Minal, Sanjana	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	sessional marking
	TIME	Thursday 9:40-11:20	TEACHING HOURS	30hrs	TIME REQUIRED OUTSIDE OF CLASS	2 hours a week

UNIVERSITY COURSE DESCRIPTION	Objective: To study and understand passive methods of environmental control. Climatology and building sciences, Micro climate and Macro climate, Energy Flow in building, Human comfort, Traditional methods for achieving comfort. Passive methods of control: Natural Lighting, Solar radiations and architecture, Air Flow patterns inside building layout, Natural Ventilation
PEDAGOGIC INTENT	The course is designed to introduce Bioclimatic or Climate responsive Architecture. It focuses on understanding climatic parameters and its implication over building design and also emphasise the need for climate driven designs in today's context. The course discusses building physics in detail to understand the relationship between the building elements and climate. It enables the student to strategize the designs as per the context and varied climate to create a symbiotic energy efficient design. It also touches upon the principles of sustainability breaking certain myths and strengthening the fundamentals. The passive techniques and grass root mechanical systems are discussed in detail and advance technology is being introduced for further persuasion. The framework of the course revolves around three principles climate responsive design, energy efficient building technology and Sustainability. It allows student to explore the subject through reading material, case studies, available software. This allows student to inform their architectural design project and use climatic parameters to inform their design issues.
METHODOLOGY	Theory Lectures, Small Exercises, Case - studies, Site Visit (Introduce Chapter 11 of NBC named Sustainability (to reinforce the above topics w.r.t Architecture and Built environment)

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	1	13.06.2019	Re-cap - Climate responsive Design		
week 2	2	20.06.2019	Sustainable Passive and active Design Houses discussing chosen practices		
week 3	3	27.06.2019	Sustainable Passive and active Design Houses discussing chosen practices		
week 4	4	04.07.2019	Design decision drivers based on climate (oreintation form material choices etc)		
week 5	5	11.07.2019	Building a micro climate for the site - Techniques and advantages using architectural examples		
week 6	6	18.07.2019	Building a micro climate for the site - Techniques and advantages using architectural examples		
week 7	7	25.07.2019	Sustainable Passive and active Design instituitional buildings discussing chosen practices		
week 8	8	01.08.2019	Sustainable Passive and active Design public infrastructure buildings discussing chosen practices		
week 9	9	08.08.2019	Articulating façade for daylight and thermal comfort		
week 10	10	22.08.2019	Articulating façade for daylight and thermal comfort - Showcasing examples		
week 11	11	29.08.2019	Class quiz	100 percent	Quiz
week12	12	05.09.2019	Materials and their behavioral pattern		
week 13	13	12.09.2019	Aletrnative Materials and their behavioral pattern		
Week 14	14	26.09.2019	Aletrnative Materials and their behavioral pattern		
Week 15	15	03.10.2019	architectural green practices		
Week 16	16	10.10.2019	architectural green practices		

EVALUATION CRITERIA	Quiz and integrated to IDS studio
LEARNING OUTCOMES	The student should be able to establish a relationship between climate and built environment. Apply various methods to create climate responsive architecture using passive design techniques.
READING LIST	Handbook on Energy conscious buildings, Environmental planning Anne Beer, Ecological Architecture, Soleri, Energy Efficient buildings, Environments, Technology and sustainability and Design with Nature, Sustaianble building in practices, Responsive environments, Ecohouse, Green Architecture, Natural Ventilation in Urban Enviornment, TOA vol 01 and vol 02

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Environmental Studies

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Environmental Studies 3
Course Code: BARC 306
Sem 3
Year 19-20

Course Objectives:

The course is designed to introduce Bioclimatic or Climate responsive Architecture. It focuses on understanding climatic parameters and its implication over building design and also emphasizes the need for climate driven designs in today's context. The course discusses building physics in detail to understand the relationship between the building elements and climate. It enables the student to strategize the designs as per the context and varied climate to create a symbiotic energy efficient design. It also touches upon the principles of sustainability breaking certain myths and strengthening the fundamentals. The passive techniques and grass root mechanical systems are discussed in detail and advanced technology is being introduced for further persuasion. The framework of the course revolves around three principles of climate responsive design, energy efficient building technology and Sustainability. It allows students to explore the subject through reading material, case studies, and available software. This allows students to inform their architectural design project and use climatic parameters to inform their design issues.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To be able to understand the relationship between built-environment design and environmental parameters including natural ventilation and air quality, daylight etc.
CO2	To explore how the different environmental aspects inform thermally comfortable design decisions, through vernacular and contemporary case study approaches.
CO3	To be able to recognize passive architectural features, identify the materials, details including built forms, construction techniques and principles that evolve due to climatic responses.
CO4	To be able to analytically understand and apply the climatic variables, followed by a resolution of the building keeping in view a strong climate response.

Rubrics:

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**		**BARC 306**	**Sessional Marks :**	**Exercise 01: Marks out of**	**Credits:**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
SECOND YEAR-SEM 3	**EVS**		**BARC 306**	**50**	**50**	**2**	**29.10.2020**		
Exercise: Title	Quiz								
Exercise Note / Task	Quiz								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Understanding of environment and their integration with other systems as well as with space	1)Complete understanding of systems 2)its integration with other system 3) its hierarchy in planned space	1)Very good understanding of systems 2)its integration with other and its position in planned space.	Good understanding of systems and its integration and its position in planned space.	Fairly good understanding of systems and its integration and its position in planned space.	1)Understanding of system is seen along with other systems 2) lacking spatial integration.	1)Lesser understanding of system is seen along with other systems 2) lacking spatial integration.	1)Poor understanding of system. 2)No understanding of integration with other systems.	Extremely poor understanding of system.	Non-Submission
Representation Technique and final submission	Logical and semantic representation	Logical representation	Good representation in all aspect	Good representation in all aspect	Fairly represented in all aspect	The drawings could be	Representation needed clarification	Drawings not clear enough	Non-Submission

						understood			
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

COPO Mapping Setup for Sem 3

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To be able to understand the relationship between built-environment design and environmental parameters including natural ventilation and air quality, daylight etc.	2	3	3	2	1	1	2	1
CO2	To explore how the different environmental aspects inform thermally comfortable design decisions, through vernacular and contemporary case study approaches.	2	3	1	2	1	2	2	1
CO3	To be able to recognize passive architectural features, identify the materials, details including built forms, construction techniques and principles that evolve due to climatic responses.	3	2	2	1	2	2	2	1
CO4	To be able to analytically understand and apply the climatic variables, followed by a resolution of the building keeping in view a strong climate response.	2	2	2	1	2	2	3	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

CODE NO. OF COURSE	COURSE NAME	Architectural Representation & Detailing	SEMESTER	3	CREDITS	
	FACULTY	Vikram, Kaushik, Glnella, Kimaya, Mamta, Rutika	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	3hrs paper of 50 marks
	TIME		TEACHING HOURS	16 sessions of 200 min each (45 hrs over the semester) including lectures and studio	TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	
PEDAGOGIC INTENT	
METHODOLOGY	

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY		MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
			describe the subject matter to be taught that day		*% or marks for assignments*	*tasks like reading, writing, research, etc with details*
week 1		11th June	Introduction to course- Documentation of Built forms, Mumbai			
week 2		18th June		Working Studio Sketches		
week 3		25th June		Working Studio Plans		
week 4		2ndJuly		Working Studio Sections		
week 5		9th July	Discussions on Narrative Buildup and Story Boarding	Base Drawing (Plans & Sections) First Submission	5	
week 6		16th July	Various narrative illustrations of architecture & activities	Working Studio Script and Story Board		
week 7		23rdJuly		Working Studio Script and Story Board		
week 8		30th July		Working Studio First Draft of Story Board Pin-Up	10	
week 9		6th Aug	Digital tools- Photoshop	Base Drawing Final	**10**	
week 10		13th Aug	Digital Tool 2- Photoshop	Working Studio- Converting Story Board Frames/ Poster to Digital platform Process		
week 11		20th Aug	Digital Tool 3- CAD	Working Studio- Converting Story Board Frames/ Poster to Digital platform Process	10	
week 12		27th Aug	Digital Tool 4- CAD	Working Studio- Converting Story Board Frames/ Poster to Digital platform Submission		
week 13		3rd Sep	Digital Tool 5- CAD	Digital Technical Drawing Session 1- Plans		
week 14		10th Sep	Digital Tool 6- SKP/ BIM	Digital Technical Drawing Session 2- Sections		
week 15		17th Sep	Digital Tool 7- SKP/ BIM	Digital Technical Drawing Session 3- Views/ Models	15	
week 16		**24th Sep**		Condonation and Final Grades		

EVALUATION CRITERIA	*completion of given assignment; extent of exploration/ resolution; representation of resolved solutions.*
LEARNING OUTCOMES	
READING LIST	Barry; Introduction & Advanced Construction; Chudley; Mitchel; Ching;

1

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Architecture Representation and Detailing

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Representation and Detailing
Course Code: BARC 307

Sem 3

Name - Second

Course Objectives:

- Observation of built form and elements and representation as measured architectural drawings
- Understanding building performances related to precipitation, water supply and drainage.
- Reading undulating and steep terrains and its representation as contours.
- Introduction and use of Surveying and Levelling tools

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Hone skills of spatial observation
CO2	Translate their spatial observations (seeing) into cartographic drawings
CO3	Visualizing the construct and systems
CO4	Technical representation of construct

CO-PO mapping for a course of "UG Program									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Hone skills of spatial observation	2	3	2	2	2	2	3	3
CO2	Translate their spatial observations (seeing) into cartographic drawings	2	3	2	2	2	2	3	3
CO3	Visualising the construct and systems	2	3	2	2	1	2	3	3
CO4	Technical representation of construct	2	3	2	2	2	3	3	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

Rubrics:

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks:**	**Exercise: Marks out of**		**Credits**	**Date of submission**	
SECOND YEAR - SEM 3	**Arch Representation & Detailing**		**BARC 307**	**100**	**100**		**4 + 1 Building Services**		
Exercise: Title	Creation of Representation drawings								
Exercise Note / Task	To make technical drawings of observed and measured spaces, architectural details and services.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Representation through drawings	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Ideas for synthesis drawings	Innovative. Experimental and Bold Clarity.	Very impressive. Highly demonstrative.	Excellent presentation of ideas.	Very good attempt to present ideas.	More than adequate attempt to present ideas.	Just adequate attempt to present ideas.	No further enquiry.	No further enquiry.	Does not complete the assignment
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

CODE NO. OF COURSE - 308					
COURSE NAME	Architectural Building Services - 1	SEMESTER	3	CREDITS	3 (2 abs Lecture + 1 ARD studio)
FACULTY	Minal Yerramshetty, Arti Daga	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Sessional Marking and one Theory paper - 50 marks
TIME	Thursday (8.00 - 9.40)	TEACHING HOURS	27 hrs	TIME REQUIRED OUTSIDE OF CLASS	2 hours a week

UNIVERSITY COURSE DESCRIPTION	Pipes and fittings, materials, size and classification. • Different types of taps, toilet and kitchen fittings. • Connection of lines to fittings. • Under ground, overhead and internal storage tanks and supply lines. • Pumping mechanisms. • Design layout of water supply for a residence and apartment block, and calculation of supply requirements based on standards. • Introduction to sanitation and its importance. • Planning and layout of sanitary fittings in residences. • Drainage system for residences. • Waste water drainage-traps of various types details and use. • Rain water disposal and roof drain. • Sewers details of construction , inspection chambers, trap chambers. • Septic tanks.
PEDAGOGIC INTENT	The Architectural Building Services course in this semester intends to introduce the technological understanding of building infrastructure, with a focus on water supply, drainage and solid waste management systems. With a goal towards achieving sustainability in terms of resource and energy management, this course enables the students to deal with traditional as well as novel techniques to make buildings functional while imparting comfort, convenience, health and hygiene to the occupants.
COURSE METHOD	Theory Lectures, Small Exercises, Case - studies, Site Visit and market study.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	1	07-Jun-18	What are architectectural services? Comparison of Building systems with Human systems and understanding its integrity with Design	10%	Sketch book to be maintained through out & to be marked
week 2	2	14-Jun-18	Planning Service in the building - what does it entail, Number of experts/consultants on an architect's team, advantages when services are well integrated at design level		
week 3	3	21-Jun-18	Water supply at city level, sources - both surface as well as ground, briefly method of filteration and distribution. Changes at city level - requirement changes and supply changes, tariffs and losses and its implication on planning.	10%	Introduction of building typology to be considered for case study
week 4	4	28-Jun-18	Water supply at building level - connections from the mains to service pipes, components in the entire system, distribution within the building……..		
week 5		05-Jul-18	Tanks, their construction and their capacities and sizes calculations based on number of residents, water supply at a home level,		
week 6	5	12-Jul-18	Water supply for high rise building - pressure reducing valve system, multiple tank system, hydro-pneumatic systems and the spaces that are needed to be planned. Fire fighting water requirement and the site hydrant system. (repeated in 6th sem)		
week 7	6	19-Jul-18	Design of Public Toilet - Design criteria of PT, typology and design consideration, various aspects of designing PT such as privacy, wet/dry area segregation, concerned bylaws…….		
week 8	7	26-Jul-18	Use of materials, signages, light/ventilation/maintenance aspect, fixtures and fitting, innovative water saving devices used in PT, ergonomics, and design for disabled		
week 9	8	02-Aug-18	Sanitation - house drainage, traps, systems, principles of drainage system, anti siphon and ventilation of system		
week 10	9	09-Aug-18	Environmental friendly systems such as septic tank, DEWAT, Ecosan toilet, dry toilets, urine seperating toilets. Water management system, water saving techniques.		
weel 11	10	16-Aug-18	case study presentation - students are to study water and sanitation system in various category of buiding and present it	MIDTERM	5 groups will present
week 12	11	23-Aug-18	case study presentation	30%	5 groups will present
week 13	12	30-Aug-18	case study presentation		5 groups will present
week 14	13	06-Sep-18	Site Visit - Govardhan Village		
week15	14	13-Sep-18	Studio Discussion		
week 16	15	20-Sep-18	revision		

EVALUATION CRITERIA	The criteria for evaluation is basic understanding of services as an integral part of arcitecture and their importance for achieving not only basic comfort for human habitation but as a design strategy. Assignments are to evaluate this understanding in their application.
LEARNING OUTCOMES	Students are exposed to importance of services, consultants and teamwork required for an architectural project, basic services like water supply and sanitation. Students are in capacity to compute the required services components and their appropriate placements in site planning. The studio helps them to be keen observer, analyse and represent their idea correctly and concisely.
READING LIST	Water Supply and Sanitary Engineering (B 277), (B 1311), (B 3329), (B 1329), Sanitation Details (B 2229), Essential Building Service & Equipment (B 3097), Architectural Hygiene (B 194). Other pdfs would be handed over with information on various sites for added reading and information.

CO-PO mapped syllabi of B.Arch Course 19-20 – *Architectural building services 1*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpret learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive ways of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Services 1

Course Code: 308 Sem 3 Second Year

Course Objectives:

The Architectural Building Services course in this semester intends to introduce the technological understanding of building infrastructure, with a focus on water supply, drainage and solid waste management systems.

With a goal towards achieving sustainability in terms of resource and energy management, this course enables the students to deal with traditional as well as novel techniques to make buildings functional while imparting comfort, convenience, health and hygiene to the occupants.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	As a part of introduction, students will be able to understand the relevance of services and infrastructural systems as an integral part of architectural design.
CO2	To be able to understand the water flow in a building, and understand the concept of 3Rs (reduce, reuse and recycle) of solid waste within a building.
CO3	To be able to explore and investigate the integration of building infrastructure, material and structural components.
CO4	To be able to apprehend how building services and infrastructure informs the architectural design.

Rubrics

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
SECOND YEAR - SEM 3	**Arch. Building services**		**BARC 308**	**50**		**3**			
Exercise: Title	**Building Services for various typology of buildings, Compost activity on campus**								
Exercise Note/task	**Representational drawing of building services of their case study.**								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Understanding of systems and their integration with other systems as well as with space	1)Complete understanding of systems 2) its integration with other system 3) its hierarchy in planned space	1)Very good understanding of systems 2) its integration with others and its position in planned space.	Good understanding of systems and its integration and its position in planned space.	Fairly good understanding of systems and its integration and its position in planned space.	1)Understanding of a system is seen along with other systems 2) lacking spatial integration.	1)Lesser understanding of the system is seen along with other systems 2) lacking spatial integration.	1)Poor understanding of the system. 2)No understanding of integration with other systems.	Extremely poor understanding of the system.	Non-Submission
Representation Technique and final submission	Logical and semantic representation	Logical representation	Good representation in all aspect	Good representation in all aspect	Fairly represented in all aspect	The drawings could be understood	Representation needed clarification	Drawings not clear enough	Non-Submission
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

CO-PO MAPPING

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	As a part of introduction, students will be able to understand the relevance of services and infrastructural systems as an integral part of architectural design.	2	2	2	0	0	0	3	2
CO2	To be able to understand the water flow in a building, and understand the concept of 3Rs (reduce, reuse and recycle) of solid waste within a building.	0	0	0	1	1	3	3	2
CO3	To be able to explore and investigate the integration of building infrastructure, material and structural components.	1	0	3	0	0	0	3	2
CO4	To be able to apprehend how building services and infrastructure informs the architectural design.	2	2	3	0	0	0	3	2

BARC 309					
	COURSE NAME	ARCHITECTURAL THEORY	SEMESTER	Sem 3	CREDITS	2AT + 1CP
	FACULTY	Manoj Parmar / Rutika p	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	-
	TIME	Friday 12 to 12.50pm & 1.20 to 3.00pm	TEACHING HOURS	1.6	TIME REQUIRED OUTSIDE OF CLASS	-
UNIVERSITY COURSE DESCRIPTION						
PEDAGOGIC INTENT						
METHOD	The course contains four sections. The first part shall elaborate the process and situation (social and cultural) that has shaped architectural productions within the period between 1900 & 1930. The second part shall establish the relationship with the project on modernism and production. The third part of the course structure shall emphasize the work on variation in modernity & Architectural approaches. The last section shall examine the emerging architectural practices and discussion of regionalism. Method: The work of 12 Architects shall be discussed (Architectonics and Technology) through the idea of Modern.					

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY		
week 1	Friday	14-Jun-19	Why & How modern: Sessionism		selection of book
week 2	Friday	21-Jun-19	What is Modern, Modernism, Modernity: Work Bruno Taut & Otto Wagner		an overview of the design theories from past + introductin to writing a book review and design journal
week 3	Friday	28-Jun-19	Architecture & Science: Work of Adolf Loos. Work of De Stijl and Bauhaus	movie 23projects	introduction to house exercise
week 4	Friday	05-Jul-19	Who is Modernist: A social & Political Perspective		analysing architecture and a formal language of architecture discussing the concepts of Christopher alexander pattern
week 5	Friday	12-Jul-19	presentation of book review and selection of anyone project through time ?		abstraction and representation of analytical dwgs
week 6	Friday	19-Jul-19	Modern: Ethical and Moral question.: Work of Gunnar Asplaund, Alvar Aalto & Carlos Scarpa		Archi gram L'Esprit Nouveau
week 7	Friday	26-Jul-19	Modern: Myth and Utopia: Work of Le Corbusier	movie 23 projects	
week 8	Friday	02-Aug-19	The variation and modernism I: Work of Louis Kahn	20	
week 9	Friday	09-Aug-19	The variation in Modernism II: Work of Richard Mier		
week 10	Friday	16-Aug-19	HOLIDAY		
week 11	Friday	23-Aug-19	Ideological & Cultural Rhetoric: Discussion on emerging theories		introduction to theories and manigestos plus picking up architectural text
week 12	Friday	30-Aug-19	Architecture & Representation I: Work of John Hejduk	movie 23 projects	pin up of the texts and discussion
week 13	Friday	06-Sep-19	Architecture & Representation II: Work of Peter Eisenmann		architects and drawings
week 14	Friday	13-Sep-19	What is Regionalism: Work of Louis Barragan and Claudio Silverstein		
week 15	Friday	20-Sep-19	Submission and Discussion		
week 16	Friday	27-Sep-19			

EVALUATION CRITERIA	*Writing skills and analytical ability*
LEARNING OUTCOMES	*Build the base knowledge on modernism and develop the ability to understand the imperatives attahed to modernism*
	SOURCE: KRVIA LIBRARY. Le Corbusier, "Towards a New Architecture" Kenneth Frampton. "Modern Architecture" 1985 Anthony Antoniades. "Poetics of Architecture". 1990 Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," Theodor Adorno, "Functionalism Today," Peter Bürrer. "Theory of the Avant-Garde and Critical Literary Science." Theory of the Avant-Garde

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Architectural Theory 1

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Theory 1
Course Code: BARC 309 **Sem 3** **Second Year**

Course Objectives:

- To enable the students with critical thinking skills.
- To consider the relationship between the 'self' and the frameworks through which it is constructed, and the choices made with respect to design.
- To create a dialectical relationship between the concepts that shaped the object and the nature and presence of the object itself.
- To create an unstable field within which questions and concerns can oscillate constantly critiquing each other.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understanding the ideas and concepts that have shaped architectural thinking
CO2	Analysing and taking a position with respect to acts of design
CO3	Applying the learning from various references of literature, visual art or film, by placing the built object in conceptual, cultural and historical context

Rubrics:

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**University Subject Code**	**Sessional Marks:**	**Exercise : Marks out of**	**Credits**	**Date of submission**			
SECOND YEAR - SEM 3	**Arch Theory 3**	**BARC 309**	**50**	**50**	**2 AT + 1CP**				
Exercise: Title	Building Analysis								
Exercise Note / Task	Students will select a structure designed after 1950 to discuss and analyse in detail								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Discussion through Images	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Analysis and Ideas	Innovative. Experimental and Bold Clarity.	Very impressive. Highly demonstrative.	Excellent presentation of ideas.	Very good attempt to present ideas.	More than adequate attempt to present ideas.	Just adequate attempt to present ideas.	No further enquiry.	No further enquiry.	Does not complete the assignment
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 3

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understanding the ideas and concepts that have shaped architectural thinking	1	3	3	0	0	3	3	0
CO2	Analysing and taking a position with respect to acts of design	1	3	2	1	0	3	3	2
CO3	Applying the learning from various references of literature, visual art or film, by placing the built object in conceptual, cultural and historical context	0	0	1	0	1	3	3	0

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

320	COURSE NAME	COLLEGE PROJECTS	SEMESTER	THREE	CREDITS	3CP (2AD + 1AT)
	FACULTY	SONAL SANCHETI, NEMISH SHAH, ADVAIT POTNIS, PINKISH SHAH, JIGNESH DOSHI, QUAID DOONGERWALA, ROHAN CHAVAN TA: ?	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	100(80 AD + 20NAT)
	TIME	TUES - 8 -10:30 AM FRIDAY - 8 -10:30 AM	TEACHING HOURS	3	TIME REQUIRED OUTSIDE OF CLASS	1

ARCHITECTURAL DESIGN STUDIO +

301/320	COURSE NAME	ARCHITECTURAL DESIGN STUDIO + COLLEGE PROJECTS	SEMESTER	THREE	CREDITS	STUDIO - 6 AD +2CP
	FACULTY	SONAL SANCHETI, NEMISH SHAH, ADVAIT POTNIS, PINKISH SHAH, JIGNESH DOSHI, QUAID DOONGERWALA, ROHAN CHAVAN TA: ?	SESSIONAL MARKS	INTERNAL 100 EXTERNAL 100 MINIMUM 50 MARKS PASSING	SCHEME OF EXAMINATION	INTERNAL 100 EXTERNAL 100 EXAM CONDUCTED BY COLLEGE
	TIME	TUES - 8 -10:30 AM FRIDAY - 8 -10:30 AM	TEACHING HOURS	108 PERIODS OF 50 MINUTES DURATION - 90 HOURS	TIME REQUIRED OUTSIDE OF CLASS	6 HRS/WEEK

UNIVERSITY COURSE DESCRIPTION	*OBJECTIVES -Understanding space requirements for various activities for small groups of people. Understanding indoor and outdoor spaces created by built forms.* *DESIGN OBJECTIVES - Design of spaces suitable for intended activity, Design of spaces as per behavioral needs of individuals and groups, Design and Detailing of built form and required infrastructure with reference to methods of construction and materials.* *DESIGN PROJECTS - Built and unbuilt spaces for multiple activities for a small group of people. Built and Unbuilt spaces for relatively larger groups*
PEDAGOGIC INTENT	*At the heart of human life is the home. It is both symbolic and physical. It is also the space of belonging, of intimacy and of desire. It is in fact, the most significant, and also the most overlooked.*
METHODOLOGY	The Overall Studio is divided into 2 main parts. Part 1 is mainly study and research, but will be further subdivided into 2 parts of 3 weeks each. In the first 3 weeks, the student will start with the world they live in and inhabit everyday and are most familiar with. They will investigate their own personal domestic space such as their house In next 4 weeks, the class will dwell on the IDEA of the HOUSE. We will start by reading a few iconic essays such as Colin Rowe's, *The Mathematics of the Ideal Villa* ; Reyner Banham's, *A Home is* The Second Part of the Studio will have a duration of 8 Weeks, and here, based on the conceptual framework built above, each student will be asked to design an **EXPERIMENTAL HOUSE /**

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Tuesday	11-6-19	Introduction to 2nd year Brief discussion of 1st year Studio and Review of Selected Projects. **Introduction of the project.**		
	Friday	14-6-19	Collection of 50 Objects		Objects with description
week 2	Tuesday	18-6-19	Collection of 50 Objects		Short-listing of the objects after discussion with the faculty.
	Friday	21-6-19	Collection of 50 Objects		Documentation
week 3	Tuesday	25-6-19	Collection of 50 Objects		Documentation
	Friday	28-6-19	**EXHIBITION -** 50 Objects	10%	Each student will be given a specific amount of space in which to organise all the 50 objects in such a manner as to evoke the idea of a dwelling. The exhibition can contain either the actual object or a drawing / documentation of that object.
week 4	Tuesday	2-7-19	Introduction to Part 2 - Discussion with the students about idea of Dwelling - meaning of the House and also the reading provided to Faculty Presentation on Various Ideas of the Dwelling throughout the History of Architecture - From the House as a Cosmos, to the House as a Machine to Live in.		Groups will be formed and each group will select a particular House / House type for their study.
	Friday	5-7-19	DESK CRIT - First cut of documentation / Gathering Information.		Sketches / Plans / Drawings
week 5	Tuesday	9-7-19	DESK CRIT - Documentation / Study		
	Friday	12-7-19	Introduction to the ESSAY (Discussion of various parameters, significant to the Idea of House / Dwelling in Mumbai, India -		Sketches / Plans / Drawings
week 6	Tuesday	16-7-19	**Rough Draft of the ESSAY**		
	Friday	19-7-19	**JURY (Documentation and Presentation of the House and submission of individual Essay)**	10%	**Essay and Documentation. Final Format to be Decided.**
week 7	Tuesday	23-7-19	INTRODUCTION TO THE HOUSE PROJECT - CLASS DISCUSSION		
	Friday	26-7-19	DESK CRIT		Conceptual Development (Fundamental Ideas of the
week 8	Tuesday	30-7-19	DESK CRIT		Conceptual Development (Fundamental Ideas of the HOUSE)
	Friday	2-8-19	DESK CRIT		Conceptual Development - Models / Volumetric Ideas
week 9	Tuesday	6-8-19	DESK CRIT		Conceptual Development - Models / Volumetric Ideas
	Friday	9-8-19	Interim JURY - Interim Review of the Conceptual Idea of the	10%	Conceptual IDEA / Drawings / Sketches - to scale /
week 10	Tuesday	13-8-19	DESK CRIT		Design Development / Detail Plans / Detail Sections
	Friday	16-8-19	DESK CRIT		Design Development / Detail Plans / Detail Sections
week 11	Tuesday	20-8-19	DESK CRIT		Design Development / Detail Plans / Detail Sections
	Friday	23-8-19	Lecture: **Representation Techniques**		Design Development Exercise - At this point, it is also imagined that the students will work out appropriapte
week 12	Tuesday	27-8-19	DESK-CRIT		Design Development / Detail Plans / Detail Sections
	Friday	30-8-19	DESK-CRIT		Design Development / Detail Plans / Detail Sections
week 13	Tuesday	3-9-19	DESK-CRIT		Design Development - Material / Structure
	Friday	6-9-19	DESK-CRIT		Design Development - Material / Structure
week 14	Tuesday	10-9-19	PRE-FINAL JURY	20%	All PLANS / SECTIONS ELEVATIONS in a Manner / Medium appropriate the Conceptual Framework of the Project. Study Model at 1:100. All Conceptual Models.
	Friday	13-9-19			
week 15	Tuesday	17-9-19	DESK CRIT		
	Friday	20-9-19	DESK CRIT		
week 16	Tuesday	24-9-19	Representation Week		
	Friday	27-9-19	Representation Week		
	Saturday	**28-9-19**	**FINAL JURY**	30%	Max 3 No.s A1 Size Panels. Final Working Model at 1:100 Scale
				80%	

EVALUATION CRITERIA	In the first part of the Studio, the student will be evaluated based on their ability to undertake research and ask the required questions and come to appropriate conclusions based on their findings. The Essay, or their understanding of the current situation of the World will be a very important part of this. In the Second part the student will be evaluated on their abilioty to come up with design concepts, based on fundamental issues (raised by themselves) and from those deisgn concepts reach an appropriate Architectural Design Strategy. It is clear that its not only the final answer / solution that is important but also, the process a student undergoes which constitutes a large part of their understanding and therefore is critical to their evaluation.
LEARNING OUTCOMES	It is imagined that the student will learn to **OBSERVE** objects / things / spaces at all different **SCALES** and document them, providing them a level of understanding that is more than just that of anthopometrics. Ideas such as those if EMPATHY / HUMANITY / UNDERSTANDING should become integral to their way of seeing the world. Through these observations, they will learn how to **FORMULATE CONCEPTS** and think of **FUNDAMENTAL IDEAS**. Finally it is hoped that based on these **CONCEPTS,** they are able to formulate **PROGRAMATIC IDEAS** and **FORMAL IDEAS** and using various methods **REPRESENT** these in an appropriate format.

BARP 320

BARC 309	COURSE NAME	ARCHITECTURAL THEORY	SEMESTER	Sem 3	CREDITS	2+1CP
	FACULTY	Manoj Parmar / Rutika p	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	INTERNAL
	TIME	12:00 noon	TEACHING HOURS	1.6	TIME REQUIRED OUTSIDE OF CLASS	-

UNIVERSITY COURSE DESCRIPTION	
PEDAGOGIC INTENT	
METHOD	**The course contains four sections. The first part shall elaborate the process and situation (social and cultural) that has shaped architectural productions within the period between 1900 & 1930. The second part shall establish the relationship with the project on modernism and production. The third part of the course structure shall emphasize the work on variation in modernity & Architectural approaches. The last section shall examine the emerging architectural practices and discussion of regionalism.** **Method: The work of 12 Architects shall be discussed (Architectonics and Technology) through the idea of Modern.**

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY		
week 1	Friday	14-Jun-19	Why & How modern: Sessionism		selection of book
week 2	Friday	21-Jun-19	What is Modern, Modernism, Modernity: Work Bruno Taut & Otto Wagner		an overview of the design theories from past + introductin to writing a book review and design journal
week 3	Friday	28-Jun-19	Architecture & Science: Work of Adolf Loos. Work of De Stijl and Bauhaus	movie 23projects	introduction to house exercise
week 4	Friday	05-Jul-19	Who is Modernist: A social & Political Perspective		analysing architecture and a formal language of architecture discussing the concepts of Christopher alexander pattern
week 5	Friday	12-Jul-19	presentation of book review and selection of anyone project through time ?		abstraction and representation of analytical dwgs
week 6	Friday	19-Jul-19	Modern: Ethical and Moral question.: Work of Gunnar Asplaund, Alvar Aalto & Carlos Scarpa		Archi gram L'Esprit Nouveau
week 7	Friday	26-Jul-19	Modern: Myth and Utopia: Work of Le Corbusier	movie 23 projects	
week 8	Friday	02-Aug-19	The variation and modernism I: Work of Louis Kahn	20	
week 9	Friday	09-Aug-19	The variation in Modernism II: Work of Richard Mier		
week 10	Friday	16-Aug-19	HOLIDAY		
week 11	Friday	23-Aug-19	Ideological & Cultural Rhetoric: Discussion on emerging theories		introduction to theories and manigestos plus picking up architectural text
week 12	Friday	30-Aug-19	Architecture & Representation I: Work of John Hejduk	movie 23 projects	pin up of the texts and discussion
week 13	Friday	06-Sep-19	Architecture & Representation II: Work of Peter Eisenmann		architects and drawings
week 14	Friday	13-Sep-19	What is Regionalism: Work of Louis Barragan and Claudio Silverstein		
week 15	Friday	20-Sep-19	Submission and Discussion		
week 16	Friday	27-Sep-19			

EVALUATION CRITERIA	*Writing skills and analytical ability*
LEARNING OUTCOMES	*Build the base knowledge on modernism and develop the ability to understand the imperatives attahed to modernism*
READING LIST	SOURCE: KRVIA LIBRARY. Le Corbusier, "Towards a New Architecture" Kenneth Frampton. "Modern Architecture" 1985 Anthony Antoniades. "Poetics of Architecture". 1990 Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," Theodor Adorno, "Functionalism Today," Peter Bürger, "Theory of the Avant-Garde and Critical Literary Science," Theory of the Avant-Garde Robert Venturi, "Complexity and Contradiction in Architecture" Gordon Matta Clark, Art, Architecture and Attack on Modernism M. Gottdiener. "Postmodern Semiotics" 1995 Venturi, Brown, Izenour, "Learning from Las Vegas" Martin Heidegger, "Building, Dwelling, Thinking," Poetry, Language, Thought Kenneth Frampton, "Prospects for a Critical Regionalism", Perspecta Bernard Tschumi, "Spaces and Events," Questions of Space Peter Zumthor, "Atmospheres" Christian Norberg-Schulz, "Genius Loci"

CO-PO mapped syllabi of B.Arch Course 2019-2020_College Projects 3

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: College Projects 3 **Sem: 3** **Second Year**
Course Code: 320

Course 1: Architecture Design Studio **Sem 3** **Second Year**

Course Objectives:

- To enable students to develop their own understanding of formal ideas along their developed concepts.
- The development of ideas based on available constraints stemming from challenging contexts or material limitations.
- To enable students, develop individual processes for design through the introduction of diverse techniques and processes used by architects as modes of production.
- To develop knowledge and applicability of building materials based on their respective properties and characteristics.
- To engage with and identify suitable scales and proportions alongwith developing accuracy while building objects.
- To develop evaluation methods for testing the feasibility of the designed product thus achieving higher degree of precision.

Course: College Projects 3 **Sem: 3** **Second Year**
Course Code: 320

Course 2: Architectural Theory **Sem 3** **Second Year**

Course Objectives:

- To enable the students with critical thinking skills.
- To consider the relationship between the 'self' and the frameworks through which it is constructed, and the choices made with respect to design.
- To create a dialectical relationship between the concepts that shaped the object and the nature and presence of the object itself.
- To create an unstable field within which questions and concerns can oscillate constantly critiquing each other.
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Rubrics 1: Architecture Design Studio

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture							
Year & Sem	**Subject:**	**University Subject Code**	**Sessional Marks:**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
Second Year SEM 3	**Architectural Design**	**301**	**100**	**100**	**6AD + 2 CP**	28/09/2019		
Exercise : Title	NO PLACE LIKE HOME, Dwelling and Domesticity							
Exercise Note / Task	The first, NO PLACE LIKE HOME, deals with their understanding of space and their ability to find and describe a place where they belong. Through this exercise, the student is encouraged to understand a particular space, which is deep resonance with their self and to make that universal. This enables them to understand, not just the physical space, but psychological and the phenomenological space as well. In the Second part, the student will be engaged in thinking about the world through a series of intense readings, discussions, movies into the nature of Utopia, and through that, to engage with larger philosophical themes. The students will be divided into groups of 3 or 4 each, and each group will, based on their collective vision, imagine a Utopia, and then write a Manifesto for the same. Along with the Manifesto, they will also start working on an aesthetic vision for their Utopia. Based on their Manifesto, and their aesthetic vision, they will imagine a situation, a condition or a space, and setting this in the real world, create a domestic space appropriate to their own Utopia. It can be any kind of space, a space for a single individual, or space for a collective, a space to live, to live and work, it depends on their own Utopia. It will be more than 200sqm and less than 500sqm.							

Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Attendance and participation in the studio	95% to 100% attendance and extremely participative e along with taking complete responsibil ity of the studio assignments	1 90% to 95% attendance and visibly very participative e along with sharing responsibilities of studio assignments	1 85% to 90% attendance and visibly participative e along with sharing responsibilities of studio assignments	75% to 85% attendance e and participative e along with sharing responsibil ities of studio assignments.	70% to 75% attendance e and participative e along with sharing responsibil ities of studio assignments only when asked	65% to 70% attendance and less participative e along with sharing responsibilities of studio assignments only when asked.	155% to 65% attendance e and participative e in the studio only when asked	50% to 55% attendance and not participative e in the studio	Below 50% attendance and mostly absent in the studio
Developing a comprehensive conceptual idea and translation of the same in formal expression.	Highly Outstanding understanding of concepts and formal translation and completing innovative high quality drawings	Moderately Outstanding understanding of concepts and formal translation and innovative high quality drawings	Outstanding understanding of concepts and formal translation and innovative mod erately high quality drawings	Excellent understanding of concepts and formal translation and completing the drawings excellent quality of drawings	Very Good understanding of concepts and formal translation and completing the drawings very good t quality of drawings	Good understanding of concepts and formal translation and completing with good quality dra wings	Mediocre understanding of concepts and formal translation and completing with mediocre quality of drawings	Low but decent understanding of concepts and formal translation completion of drawing sets with low quality	Poor understanding of concepts and formal translation not completion of drawing sets with low quality drawings
Proactiveness in completing the readings and developing arguments and	Extremely involved i n taking lead and completing the group work with	Moderately but seriously involved i n taking lead and completing	Less moderately but seriously involved in taking lead and completing the group work	Seriously involved in taking lead and completing the group	Less Seriously involved in taking lead and completing the	Just for the sake involved in taking lead and completing the group	Not much active in site work but completing the requireme	No active participation in class and partial	Disinterested

developing a writing document which becomes basis for drawings	extraordinary innovative drwaings	the group work with highly innovative drawings	with very good quality drwaings	work with very good quality drawings	group work with very good quality drawings	work with very good quality drawings	nts for own	completion of the work	

Rubrics 2: Architectural Theory

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture							
ear & Sem	**Subject :**	**University Subject Code**	**Sessional Marks:**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
SECOND YEAR - SEM 3	**Arch Theory 3**	**BARC 309**	**50**	**50**	**2 AT + 1CP**			
Exercise : Title	Building Analysis							
Exercise Note / Task	Students will select a structure designed after 1950 to discuss and analyse in detail							

Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Discussion through Images	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Analysis and Ideas	Innovative. Experimental and Bold Clarity.	Very impressive. Highly demonstrative.	Excellent presentation of ideas.	Very good attempt to present ideas.	More than adequate attempt to present ideas.	Just adequate attempt to present ideas.	No further enquiry.	No further enquiry.	Does not complete the assignment
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 3

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To understand and analyze the fundamental concepts around spatial design	2	0	1	2	0	1	1	1
CO2	Understanding the ideas and concepts that have shaped architectural thinking	1	3	3	0	0	3	3	0
CO3	Analysing and taking a position with respect to acts of design	1	3	2	0	0	3	3	2
CO4	Applying the learning from various references of literature, visual art or film, by placing the built object in conceptual, cultural and historical context	0	0	1	0	1	3	3	0

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation

0 – No Correlation

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Semester 4

Scheme of Teaching and Examinations

Scheme of Teaching and Examinations
Bachelor of Architecture (B. Arch.) Semester IV

	Semester IV Exam conducted by individual colleges	Teaching Scheme		Credits		
Sub. No.	SUBJECTS	Lecture	Studio	Theory	Studio	Total
401	Architectural Design Studio		8		8	8
402	Allied Design Studio		3		3	3
403	Architectural Building Construction	3	3 classes technology studio	3	1	4
404	Theory and Design of Structures	2		2	1	3
408	Architectural Building Services	2		2	1	3
405	Humanities	3		3		3
407	Architectural Representation & Detailing	2	2	2	2	4
409	Architectural Theory	2				2
420	College projects		3			3
421	Elective		3			3
	Total	14	22	14	22	36

	Semester IV Exam Exam conducted by individual colleges	Examination Scheme			
Sub. No.	SUBJECTS	Theory (paper)	Internal	External viva	Total
401	Architectural Design Studio		100	100	200
402	Allied Design Studio		100		100
403	Architectural Building Construction	50	50		100
404	Theory and Design of Structures	50	50		100
408	Architectural Building Services	50	50		100
405	Humanities	50	50		100
407	Architectural Representation & Detailing		100		100
409	Architectural Theory		50		50
420	College projects		100		100
421	Elective		100		100
	Total				1050

Semester 4

Semester 4

Time-Table

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
8.00 - 8.50	**Architectural Building Construction**		**Architectural Design**		**Allied Design & TOS**		**Building Services & College Project**		**Architectural Design**			
	403	*4*	*401*	*4 of 8*	*402*	*3 + 1 TOS*	*408*	*3 BS / 1 CP*	*401*	*4 of 8*		
8.50 - 9.40	Mamta	Vikram	Pinkish	Nemish	Saurabh	Hussain	Aarti	Minal	Pinkish	Nemish		
	Shirish	Shantanu K	Sonal Sancheti	Apurva P	Mannsi	Jeet	Ruju		Sonal Sancheti	Apurva P		
9.40 - 10.30	Rajitha	Probbuddha	Shirish	Advait	Parnavi	George			Shirish	Advait		
	Nishant P	Sujay	Ekta	Jignesh	Ginella	Keya			Ekta	Jignesh		
10.30 - 11.20			TA - Parth Batavia	Jeet					TA - Parth Batavia	Jeet		
11.20 - 12.00												
12.00-12.50	**Humanities**		**Architectural Representation and Detailing**		**Encounter**				**Architectural Theory & College Project**			
	405	3	407	3 ARD					409	2 AT / 1 CP		
12.50 - 1.20												
1.20 - 2.10					**Architectural Representation and Detailing & College Project**		**Theory of Structures**		**Architectural Theory & College Project**			
	Jimmy	Rutika			407	1 ARD / 1 CP	404	2				
2.10 - 3.00			Mamta	Ginella Yashada	Mamta	Ginella Yashada	Rajitha	Vikram	Manoj	Rutika		
			Shirish	Vikram Kimaya	Shirish	Vikram Kimaya						

401	COURSE NAME	ARCHITECTURAL DESIGN	SEMESTER	Sem 4	CREDITS	8 AD
	FACULTY	Advait Petnis, Pratyusha S., Jignesh Doshi, Nemish Shah, Pinkish Shah, Shilpa P ,Rohan Chavan, Sonal Sanchati-Rutika P TA-Chetana K	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	External Review - 100 marks
	TIME	8.00a. To 11.20 am	TEACHING HOURS	200 mins (twice a week)	TIME REQUIRED OUTSIDE OF CLASS	2

what	UNIVERSITY COURSE DESCRIPTION	*Design of spaces suitable for the intended activity* *Design of spaces as per the behavioral needs of individuals and groups.* *Design and detailing of built form and required infrastructure with reference to methods of construction, and materials*
why	PEDAGOGIC INTENT	*In addition to being the cultural and historical centre of the Kumaon Hill areas, Almora has become a much large, hub of commercial, educational and medical infrastructure for the surrounding region. The physicality of the town, its peculiar geography, and the climate, put severe restrictions on the nature of the built form. Negotiating the terrain becomes one of the most critical aspect in building within the region.* *The city of Almora is built in layers. Layers of Geography, of History and of Civilisations. New Construction in the city, although it follows the current terrain, does not get informed by the vast, accumulated, traditional knowledge and instead is mostly haphazard, using insensitive materials (or rather using materials insensitively) and most importantly, unplanned.* *Within this existing scenario, the studio intends, through the project to bring back the sense of architecture that has been lost today. This is an architecture which is grounded in the ethos of the place, and in the varied modes of life that exist in the place. Sometimes these modes are physical - such as the relationship to the ground, the landscape, or the climate and at other times they are cultural, such as those of history, traditions, publicness, privacy, intimacy, slowness, leisure.* *This architecture is not just a series of walls, but an envelope for all our daily activities, inside and outside. It will be a manifestation of a way of life (that still exists), where both the room (inside) and the garden (outside) shape an existence that is rooted within the ethos of Almora (and the Himalayas). It will be an architecture that evokes, through various means, within the senses, evoking that primordial sense of being (in the mountains!)*
how	METHOD	**An intensive measure drawing exercise was undertaken by the 2nd year students in Almora. In order to understand the nature of domestic architecture, the students, along with multiple transects and areas within the main street, the Mandi bazaar, studied smaller, far flung settlements, away from the town of Almora. This, along with the houses along the ridge, gave the students a far deeper insight into the nature of domesticity and dwelling in the mountains.** **During the time that they were there, the students also, met, interacted, interviewed, questioned, probed and tried to understand life in Almora and in the mountains. Different architectural styles, typologies, structural methods, construction techniques and ways of negotiating the terrain used in the traditional houses were studied and documented.** **From these varied documented sites, five were shortlisted as possible sites for Design interventions. Each Site will house, in part some form of collective or community housing and partly connect with the neighbourhood through a public or community program. These programs, emerged from discussions and the interactions of the students with the local community as also the necessities and the conditions of each of the sites. The larger theme of the IVth semester, that of collective housing became instrumental in the formulation of each of the individual projects.** **Initially the students will perform a series of exercises, the goal of which would be to manifest their own personal sense of the place. These will be both, performative and intellectual. Once this sense is strongly established, the rest of the design process will be to ensure that this sensibility is deeply embedded within their eventual architectural project.**

when	SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
	week 1	Tuesday	19-Nov-19	Discovering a "Sense of Place"		create a book the book/postcards to reflect the individual learnings/impressions of Almora.
	week 1	Friday	22-Nov-19	Discovering a "Sense of Place" Discussion on posrcards		Faculty Presentation on Order & Organisation Take 10 nos of identical objects and 5 dissimilar objects and create 5 variations of an assembly or installation wherin The whole is greater than the sum of parts. Choice of objects should be carefully made to think of relationships between them. An "echo" of the installations should be found in an image/clip/word that
	week 2	Tuesday	26-Nov-19	Understanding the "Collective" Discussion on Postcards		
	week 2	Friday	29-Nov-19	Understanding the "Collective" Discussion on Postcards		
	week 3	Tuesday	03-Dec-19	Mapping the "Site"		
	week 3	Friday	06-Dec-19	**Mapping the "Site"**		Site Analysis/ Site response/ Site diagramming/
	week 4	Tuesday	10-Dec-19	Mapping the "Site"		
	week 4	Friday	13-Dec-19	Desk Crit	20	
	week 5	Tuesday	03-Jan-20	Desk Crit and Introduction to Case studies		
	week 5	Friday	07-Jan-20	Working on cas studies and desk discussion		
	week 6	Tuesday	11-Jan-20	Concept Design Development		
	week 6	Friday	10-Jan-20	Concept Design Development		
	week 7	Tuesday	14-Jan-20	Concept Design Development		
	week 7	Friday	17-Jan-20	Concept Design Development		
	week 8	Tuesday	21-Jan-20	Concept Design Development		
	week 8	Friday	24-Jan-20	**Concept Design Development**		
	week 9	Tuesday	28-Jan-20	CONCEPT JURY		
	week 9	Friday	31-Jan-20	Design Development		
	week 10	Tuesday	04-Feb-20	Design Development		
	week 10	Friday	07-Feb-20	Design Development		
	week 11	Tuesday	11-Feb-20	Design Development		
	week 11	Friday	14-Feb-20	Design Development		
	week 12	Tuesday	18-Feb-20	**MID TERM JURY**		
	week 12	Friday	21-Feb-20	**MID TERM JURY**		
	week 13	Tuesday	25-Feb-20	Design Development		
	week 13	Friday	28-Feb-20	Design Development		
	week 14	Tuesday	02-Mar-20	Design Development		
	week 14	Friday	06-Mar-20	Design Development		
	week 15	Tuesday	09-Mar-20	Design Development		
	week 15	Friday	13-Mar-20	Design Development		
	week 16	Tuesday	17-Mar-20	Prefinal Jury omplete Design. Drawings may be preliminary, but they should convey the iIDEA / MOOD / ATMOSPHERE of the project as imagined by the student.		
	week 16	Friday	20-Mar-20	Pre Final Jury		
	week 17	Tuesday	24-Mar-20	Respresentation week		
	week 17	Friday	27-Mar-20	FINAL JURY		

	EVALUATION CRITERIA	*Writing skills and analytical ability*
	LEARNING OUTCOMES	*to ensure that the student understands programmatic and organisational questions of architecture, more specifically domestic scales and group dwelling and its related communal programs*
	READING LIST	

CO-PO mapped syllabi of B.Arch. Course 2019-2020 – Architectural Design

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architecture Design
Course Code: 401 **Sem 4** **Name – Second year**

Course Objectives:

- To enable the students to learn organizing collective dwelling spaces
- To enable students to develop their own understanding of formal ideas along their developed concepts.
- To be able to construct ideas of drawings and representations in appropriate formats so as to convey their concepts and ideas.
- To enable them to familiarize with the techniques / processes and devices used by Architects - and also build within them a vocabulary to develop their own design strategies .
- To enable students to read and understand context (in all its different forms)
- To enable the students to develop poetic understanding of atmospheres of regions through sensorial perceptions.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To evaluate idea of region and context in relation with the idea of built and unbuilt through study trip and study drawings
CO2	To Understand Landform and ecological conditions of different regions and its implications on design
CO3	To create and map, different land conditions, draw and represent them
CO4	To Analyze formal articulation and the meaning of language in architecture
CO5	To apply different modes of representations by imagining spaces at various scales to help them in producing key components of representation like plan, sections and elevations

Rubrics

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks:**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
Second Year SEM 4	**Architectural Design**		**401**	**100**	**100**	**8**	12/04/2020		
Exercise: Title	Sense of a Place : The Place, Almora								
Exercise Note / Task	Different architectural styles, typologies, structural methods, construction techniques and ways of negotiating the terrain used in the traditional houses were studied and documented on study trip to Almora From these varied documented sites, five were shortlisted as possible sites for Design interventions. Each Site will house, in part some form of collective or community housing and partly connect with the neighbourhood through a public or community program.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Attendance and participation in the studio	95% to 100% attendance and extremely participative along with taking complete responsibility of the studio assignments	1 90% to 95% attendance and visibly very participative along with sharing responsibilities of studio assignments	1 85% to 90% attendance and visibly participative along with sharing responsibilities of studio assignments	75% to 85% attendance and participative along with sharing responsibilities of studio assignments.	70% to 75% attendance and participative along with sharing responsibilities of studio assignments only when asked	65% to 70% attendance and less participative alongwith sharing responsibilities of studio assignments only when asked.	155% to 65% attendance and participative in the studio only when asked	50% to 55% attendance and not participative in the studio	Below 50% attendance and mostly absent in the studio
Developing a comprehensive conceptual idea and translation of the same in formal expression.	Highly Outstanding understanding of concepts and formal translation and completing innovative high quality drawings	Moderately Outstanding understanding of concepts and formal translation and innovative high quality drawings	Outstanding understanding of concepts and formal translation and innovative moderately high quality drawings	Excellent understanding of concepts and formal translation and completing the drawings excellent quality of drawings	Very Good understanding of concepts and formal translation and completing the drawings very good t quality of drawings	Good understanding of concepts and formal translation and completing with good quality drawings	Mediocre understanding of concepts and formal translation and completing with mediocre quality of drawings	Low but decent understanding of concepts and formal translation completion of drawing sets with low quality	Poor understanding of concepts and formal translation not completion of drawing sets with low quality drawings
Proactiveness while on site study and group assignments to organize and complete the worjk	Extremely involved in taking lead and completing the group work with extraordinary innovative drwaings	Moderately but seriously involved in taking lead and completing the group work with highly innovative drawings	Less moderately but seriously involved in taking lead and completing the group work with very good quality drwaings	Seriously involved in taking lead and completing the group work with very good quality drawings	Less Seriously involved in taking lead and completing the group work with very good quality drawings	Just for the sake involved in taking lead and completing the group work with very good quality drawings	Not much active in site work but completing the requirements for own	No active participation in class and partial completion of the work	Disinterested

COPO Mapping Setup for Sem 3

CO-PO mapping for a course of "UG Program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To evaluate idea of region and context in relation with the idea of built and unbuilt through study trip and study drawings	3	3	2	3	2	3	2	0
CO2	To Understand Landform and ecological conditions of different regions and its implications on design	1	1	1	2	0	2	2	0
CO3	To create and map, different land conditions, draw and represent them	0	2	2	0	3	1	0	1
CO4	To Analyze formal articulation and the meaning of language in architecture	3	1	3	3	3	3	3	0
CO5	To apply different modes of representations by imagining spaces at various scales to help them in producing key components of representation like plan, sections and elevations	1	2	1	0	1	0	0	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

402				
	COURSE NAME	ALLIED DESIGN	CREDITS	3
	YEAR & SEMESTER	2019 - 2020 (SEM 4)	SESSIONAL MARKS	100
	FACULTY	GEORGE JACOB, GINELLA GEORGE, HUSSAIN INDOREWALA, KAUSHIK MUKHOPADHYAY, MANSI BHATT, PARNAVI KARANDIKAR	MARKING SCHEME	
	TEACHING HOURS	8:00-11:20 (3Hrs 20Mins)	TIME OUTSIDE CLASS	

UNIVERSITY COURSE DESCRIPTION	The course content will be developed by the individual colleges as per their choice of Allied Design scheme
PEDAGOGIC INTENT	The intent of the second studio project '25SQ.M. Homes' in this semester is to expose students to designing spaces for a client initiating the process of recording, conceptualization and producing the final design. The client in this case will be the residents of an already occupied SRA Project. The design agenda will be driven through the understanding of the daily rituals of the home, prompting at challenges, immediate requirements and aspirations. The process is to attempt at establishing an unsolicited or voluntary form of practice with communities, aiming to develop a mode of enagement, scripting of the intent and direction, and delivering the desired design idea. The studio aims to design spaces for the already built 25sq.m. units of SRA blocks through discussions with the residents.
COURSE METHODOLOGY	In the first week, a two class esquisse will be conducted to engage students in groups to investigate possibilities of building objects with newspaper. The success of this excercise depends on the number of iterations conducted to achieve an efficient object. As compared to the challenge posed in the third semester by material and construction, this project poses the challenge of a specific design delivery and material, inorder to find various possibilities of constructing the desired object.

WEEK / MODULE	DATE	DESCRIPTION	MARKING	ASSIGNMENT / DELIVERABLES
WEEK 1	19.12.2019	Study Trip		
WEEK 2	26.12.2019	Study Trip		
WEEK 3	08.01.2020	Esquisse - Introduction		
WEEK 4	15.01.2020	Esquisse - Final submission	20 marks	Esquisse submission
WEEK 5	22.01.2020	25sq.m.homes - Impressions of site	5 marks	Interviews/photos/ drawings of site
WEEK 6	29.01.2020	25sq.m.homes - Framing the design	10 marks	A Design Brief for site
WEEK 7	05.02.2020	Concept ideas	10 marks	Conceptual Design Ideas
WEEK 8	12.02.2020	Working Studio		
WEEK 9	19.02.2020	Working Studio		
WEEK 10	26.02.2020	Pre-Final review	15 marks	Pre-final review
WEEK 11	04.03.2020	Working Studio		
WEEK 12	11.03.2020	Final Review	40 marks	Project final review

EVALUATION CRITERIA	The Esquisse is envisaged as one submission across two sessions. While, the 25sq.m. homes - project will be evaluated within the three stages as shown in the schedule, for design brief, documentation and analysis of the space and final design proposal. The Marks will be divided across the two projects, 20-marks for the Esquisse: Newspaper Seat and 80-marks for the second part 25sq.m. homes
LEARNING OUTCOMES	1) To understand material properties and behaviour 2) to develop the possibilities of modifying daily objects or materials into new design ideas, 3) to inculcate the processes of designing and the framework of practice that is unsolicited and voluntary, 4) To document the entire design process as a tool and deliverable.
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020_Allied Design 4

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)

6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Allied Design 4 **Sem: 4** **Second Year**
Course Code: 402

Course Objectives:

- To develop knowledge and applicability of building materials based on their respective properties and characteristics.
- To engage with and identify suitable scales and proportions alongwith developing accuracy while building objects.
- The development of ideas based on available constraints stemming from challenging contexts or material limitations.
- To help students develop individual processes for design.
- To develop evaluation methods for testing the feasibility of the designed product thus achieving higher degree of precision.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand the influence of material on form and performance.
CO2	To apply the model making process to determine complex formal strategies.
CO3	To evaluate the design for the desired function and precision.
CO4	To create designs that utilize material properties and other constraints set in the studio.

Rubrics :

Year of Assessment: 2019 - 2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks:**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
SECOND YEAR - SEM 4	**Allied 4**		**402**	**100**	**100**	**3+1(TOS)**	**11/03/20**		
Exercise: Title	Designing Space with objects								
Exercise Note / Task	The semester will be organized as two phases: the first phase will begin in November and end in January, wherein they will be expected to work in groups of 4-5 to build one object - "use a line to build a seat". The second phase will investigate developing spaces for a large gathering with certain constraints of dimensions and material choice. The final grading will have an additional mark of 10 under Theory of Design and Structures.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Attendance and participation in the studio	95% to 100% attendance and extremely participative alongwith taking complete responsibility of the studio assignments	90% to 95% attendance and visibly very participative alongwith sharing responsibilities of studio assignments	85% to 90% attendance and visibly participative alongwith sharing responsibilities of studio assignments	75% to 85% attendance and participative alongwith sharing responsibilities of studio assignments	70% to 75% attendance and participative alongwith sharing responsibilities of studio assignments only when asked	65% to 70% attendance and less participative alongwith sharing responsibilities of studio assignments only when asked	55% to 65% attendance and participative in the studio only when asked	50% to 55% attendance and not participative in the studio	Below 50% attendance and mostly absent in the studio
Ability to build the prototype object and accuracy in tolerances based on the drawings	95% to 100% tolerance and finish of the object	90% to 94% tolerance and finish of the object	85% to 89% tolerance and finish of the object	80% to 84% tolerance and finish of the object	70% to 79% tolerance and finish of the object	60% to 69% tolerance and finish of the object	55% to 59% tolerance and finish of the object	50% to 54% tolerance and finish of the object	Below 50% tolerance and finish of the object
Ingenuity at composing parts of the design together	Premier accuracy in skill set involved to make the object and understanding the character and properties of the material. Prefection and complete display of ingunity.	Fine accuracy in skill set involved to make the object and understanding the character and properties of the material. Having prospect of achieving perfection.	Outstanding accuracy in making the object and understanding the character and properties of the material but having scope of evolving the overall skill set.	Excellent accuracy and display of skill set involved in making the object. Excellent understanding of the character and properties of the material. Scope of achiveing better result.	Good accuracy within limited skill set involved in making the object and intent displayed to understanding the character and properties of the material.	Good accuracy within limited skill set involved in making the object and loose intent displayed to understanding the character and properties of the material.	Fair accuracy within limited skill set involved in making the object and loose intent displayed to understanding the character and properties of the material.	Need involvment and absolute improvement in skill set to make the object and loose intend displayed to understanding the character and properties of the material.	No involvment and absolute improvement required in skill set involved to make the object and no intend displayed to understanding the character and properties of the material.
Conceptualization of the design	Novel idea, Functional Outcome, Finesse	Outstanding idea, Functional Outcome, Very Good Make	Fair idea, Functional Outcome, Good Make	Acceptable idea, Workable Outcome, Good Make	Acceptable idea, Workable Outcome, Fair Make	Average idea/Reproduced (Copied), Workable	Basic/reproduced idea (Copied), Workable Outcome, Fair Make	vague/reproduced idea (Copied), Workable Outcome, Fair Make	NO outcome

						Outcome, Fair Make			
Compatibility and experimentative intention of the idea with the outline of the studio	Most flexible design idea with originality matching the outline of the studio	Flexible enough as a design idea with comparative originality matching the outline of the studio	Flexible with constraints as a design idea with comparative originality matching the outline of the studio	Flexible idea but exhibiting a continuation of an existing idea matching the outline of the studio	Good idea but exhibiting a continuation of an existing idea matching the outline of the studio	Average idea but exhibiting a continuation of an existing idea matching the outline of the studio	Fair idea but exhibiting a continuation of an existing idea matching the outline of the studio	Satisfactory idea but exhibiting a continuation of an existing idea barely matching the outline of the studio	No intent and inclination to develop an idea

COPO Mapping Setup for Sem 4

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To understand the influence of material on form and performance.	1	2	3	0	0	1	0	0
CO2	To apply the model making process to determine complex formal strategies.	0	3	3	0	1	1	1	1
CO3	To evaluate the design for the desired function and precision.	0	3	3	2	1	2	2	2
CO4	To create designs that utilize material properties and other constraints set in the studio.	0	1	3	2	0	0	3	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation

0 – No Correlation

BARC 403	COURSE NAME	Architectural Building Construction and Materials -IV	SEMESTER	4	CREDITS	4
	FACULTY	Vikram, Mamta, Shantanu, Shitish, Rutika, Ashwati	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal
	TIME	08:00- 11:20	TEACHING HOURS	16 sessions of 200 minutes each including lectures and studios	TIME REQUIRED OUTSIDE OF CLASS	12
UNIVERSITY COURSE DESCRIPTION						
PEDAGOGIC INTENT	*The course entails understanding of a construct of vernacular architecture that is carried out through a study trip. The students measure, sketch and represent a constructionally and structurally workable design of a residential scale in vernacular architecture.*					
METHOD	**Introduce and orient through lectures, Expose to sites and case studies and simulate exercises & resolve problems and designs.**					

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Monday	11-Nov-19	Study Trip measured drawings - Understanding the structure		
week 2	Monday	18-Nov-19	Study Trip measured drawings - Working with the wall Sections to get a clear understanding of the systems used		
week 3	Monday	25-Nov-19	Study Trip measured drawings - Working with the details		
week 4	Monday	2-Dec-19	Final Compilation of measured drawings	20	
week 5	Monday	9-Dec-19	Steel as a material.		
week 6	Monday	16-Dec-19	Steel construction joinery. Basic dimensions		
week 7	Monday	23-Dec-19	Steel Trusses		
week 8	Monday	6-Jan-20	Recap - Comparison of RCC and Steel		
week 9	Monday	13-Jan-20	Recap -Steel Staircase		
week 10	Monday	20-Jan-20	RCC Site monitoring submission	10	
week 11	Monday	27-Jan-20	Ideological & Cultural Rhetoric: Discussion on emerging theories		
week 12	Monday	3-Feb-20	Design Resolution		
week 13	Monday	10-Feb-20	Design Resolution	10	
week 14	Monday	17-Feb-20	Design Resolution	10	
week 15	Monday	24-Feb-20	Design Resolution	10	
week 16	Monday	2-Mar-20	Test	20	
EVALUATION CRITERIA	*completion of given assignment; extent of exploration/ resolution; representation of resolved solutions.*				
LEARNING OUTCOMES	*skills of documentation process through observations, surveying, measured drawings, sketches and documentation photography oriented towards drawing and representation of the construction components*				
READING LIST	1]Building Construction : METRIC VOLUME 1&2 BY W.B McKAY. 2] Building Construction by S.C. Rangwala; 3] Building Construction Illustrated Book by Frank Ching Download link : https://archive.org/details/FrancisD.K.ChingBuildingConstructionIllustratedWiley2014 4]Building Construction Handbook Seventh edition R. Chudley 5] Brick Work by Laurie Baker Download Link :http://costford.com/Brick%20work.pdf , 6] Rural House plans by Laurie Baker . Download link :http://www.costford.com/Rural%20House%20Plans.pdf 7] Shigeru Ban Projects 8] The Modulor by Le Corbusier 8] Structure and Architecture by Angus MacDonald 9] The making of the modern architect and Engineer by Ulrich Pfammatter 10] Form and Structure In Architecture by Alexander ZannosLe Corbusier, "Towards a New Architecture" Kenneth Frampton. "Modern Architecture" 1985 Anthony Antoniades. "Poetics of Architecture". 1990 Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," Theodor Adorno, "Functionalism Today." Peter Bürger, "Theory of the Avant-Garde and Critical Literary Science," Theory of the Avant-Garde Robert Venturi, "Complexity and Contradiction in Architecture" Gordon Matta Clark, Art, Architecture and Attack on Modernism M. Gottdiener. "Postmodern Semiotics" 1995 Venturi, Brown, Izenour, "Learning from Las Vegas" Martin Heidegger, "Building, Dwelling, Thinking," Poetry, Language, Thought Kenneth Frampton, "Prospects for a Critical Regionalism", Perspecta				

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Building Construction and Materials 4*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognise and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete)
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Construction and Materials 4
Course Code: BARC403 Sem 4 Second Year

Course Objectives:

- The course enables students to understand the design and construction of steel structures.
- Documentation skills through observation, surveying, measured drawings, sketches and photographs.
- Comparative understanding of Steel/ RCC framed composite structures.
- Understanding the construction methodology of steel structures.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand, read and learn regional diversity and its correlation with construction systems and tectonics.
CO2	To develop analytical frameworks to inform design decisions with reference to material and choice of environmental systems.
CO3	To be able to observe, read and document different influences based on socio cultural, functional, and geographical means of the region.
CO4	To develop the ability to create, represent, design drawings integral to material, environmental systems, and tectonics.

Rubrics:

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
SECOND YEAR - SEM 4	**ABCM4**	**TLC033**	**403**	**100**	**50**	**100**	**Multiple**		
Exercise: Title	Resolution Studio: Documenting steel structures through visual observation and proportionate sketching; design of steel and RCC composite structure								
Exercise Note / Task	Portfolio submission by students								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
Data Gathering/ monitoring and collating	Showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks

Representation Technique and final submission	Very well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Clear formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Very good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Fairly formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Barely managed to get clarity of intent and study using poor diagrams and sketches	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and understanding of the subject
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem ……4…

CO-PO mapping for a course of "UG program" Architectural Building Construction and Materials 4

Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To understand, read and learn regional diversity and its correlation with construction systems and tectonics.	2	0	0	3	2	3	2	1
CO2	To develop analytical frameworks to inform design decisions with reference to material and choice of environmental systems.	1	1	1	2	0	3	2	2
CO3	To be able to observe, read and document different influences based on socio cultural, functional, and geographical means of the region.	3	2	3	3	3	2	3	2
CO4	To develop the ability to create, represent, design drawings integral to material, environmental systems, and tectonics.	2	3	3	2	1	1	3	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 404	COURSE NAME	Theory and Design of Structures	SEMESTER	Four	CREDITS	3 (2 TOS + 1 Allied Design)
	FACULTY	Rajitha Gopinath, Vikram Pawar	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 marks
	TIME	12.00 - 3.00 pm	TEACHING HOURS	2 hours per week	TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	
PEDAGOGIC INTENT	Understanding of basic theories and principles of structural analysis. Study the behaviour of structural elements under various load conditions
METHODOLOGY	Various mediums will be used to explain the concepts, like videos, presentation, hands-on experiments with spaghetti sticks, ice cream sticks etc. Sharing experiences with class in accordance to one's learnings.

SCHEDULE

DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
Thursday	14-Nov-19	Study Trip Documentation		
Thursday	21-Nov-19	Developing an intuitive understanding of how structures deflect under various loading conditions. Without calculating bending moments and shear forces, students will be taught to plot the BMD and SFD.		Assignment to solve deflected curves
Thursday	28-Nov-19	Using mola model; plastic stick and connector toy reinforce the concepts learnt in the previous class		
Thursday	5-Dec-19	Understanding of Euler's and Rankine's theory: How columns fail and what is the most governing design factor. Pipes of different heights will be used to explain slenderness ratio. Rulers and cards will be used to emphasise the concept of least radius of gyration. Videos showing various tests and column failures by different means will be shown. The class will also be given a project to plot the Euler's graph by making paper tower of various heights. Via paper column testing		
Thursday	2-Jan-20	Importance of subject, soil and its properties, void ratio, porosity, plastic/liquid limit		
Thursday	9-Jan-20	Criteria for selection of foundation types, failure of foundation and design procedure of simple load bearing foundations		
Thursday	16-Jan-20	Site visit		
Thursday	23-Jan-20	Understanding of indeterminate structures. Advantages and its disadvantages. We will derive the fixed end moments of differently loaded beams by working out their derivations.		Assignment to solve numericals
Thursday	30-Jan-20	Determination of positive and negative bending moments with different loading patterns. Wooden beam workshop to understand support reactions/conditions and fixity		
Thursday	6-Feb-20	Solving numericals to reinforce concept of fixed end moments		
Thursday	13-Feb-20	Class test & Introduction to Cross method and the historical scenarios/situations for introduction of such a method will be presented using power point. Explanation and introduction of key concepts like stiffness factors, dist factors and carry over moments will beintroduced.	25%	
Thursday	20-Feb-20	Basic numericals for reinforcing the understanding of moment distribution method will be done in class.		
Thursday	27-Feb-20	Modified moment distribution for simply supported and fixed ends. Solving of portal frames using this method.		Assignment to solve numericals
Thursday	5-Mar-20	Introduction to various structural designers. Presentation on their works.	25%	

BARC 404

BARC 404	COURSE NAME	Theory and Design of Structures	SEMESTER	Four	CREDITS	3
	FACULTY	Rajitha Gopinath, Vikram Pawar	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 marks
	TIME	12.00 - 3.00 pm	TEACHING HOURS	2 hours per week	TIME REQUIRED OUTSIDE OF CLASS	

	Thursday	13-Mar-20	The entire class will be divided in groups of three and asked to perform various experiments (physics like) to prove the understanding of concepts taught in class. Example: To find how much strength increases by changing the orientation of beam. Another one was to find the modulus of elasticity of ice cream stick.		
	Thursday	20-Mar-20	Class Test	25%	
	Thursday	27-Mar-20	Revision and submission of class notes	25%	
EVALUATION CRITERIA	Assignments, online quizzes, documentation of study notes.				
LEARNING OUTCOMES	Analysis of fixed end beams with different loading conditions Analysis of short and long columns Soil Mechanics and various soil tests, improvement of soil properties				
READING LIST	Strength of Materials by S. Ramamrutham Foundation Engineering by B.C.Punmia, P. C. Varghese				

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Theory and Design of Structures 4*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Theory and Design of Structure 4
Course Code: BARC 404

Sem 4

Name - 2nd Year

Course Objectives:

- Understanding of basic theories and principles of structural analysis
- Understanding of properties of materials relevant to structural analysis
- Understanding of behaviour of structural elements under various conditions

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Develop an understanding of Long column and short column through theories and methods and the way it is used in the structural systems
CO2	Developing the skill to analyze structural members (fixed beams, columns etc.) through theories and calculations and various ways in which load gets transferred in the structural system
CO3	In-depth understanding of soil properties and its mechanics and its impact on the structural design
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional.

Rubrics:

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
SECOND YEAR - SEM 4	**Theory and Design of Structures 4**	**BARC 404**	**BARC 404**	**50**	**50**	**3 (2 TOS + 1 Allied Design)**			
Exercise: Title	Case study on impact on material on structural and architectural design								
Exercise Note / Task	Assignment + Test								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Data Gathering/ monitoring and collating	All data to be collected from reliable sources with references included in the reports. Exceptional in showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected.	All data to be collected from reliable sources with references included in the reports. Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with most references included in the reports. Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks
Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
In-depth understanding a theory and its application in the architectural field	Exceptional analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified	Well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for	Very well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation	Excellent curation using outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation.	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry

	architectural expression.	the identified architectural expression.	that allows for the identified architectural expression.						
Representation Technique and final submission	Very well formatted presentation explaining concepts, process adopted using various tools and techniques	Well formatted presentation explaining concepts, process adopted using various tools and techniques	Clear formatted presentation explaining concepts, process adopted using various tools and techniques	Very good formatted presentation explaining concepts, process adopted using various tools and techniques	Good formatted presentation explaining concepts, process adopted using various tools and techniques	Fairly formatted presentation explaining concepts, process adopted using various tools and techniques	Barely managed to get clarity of intent and study using poor diagrams and sketches	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and understanding of the subject
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem 4

CO-PO mapping for a course of "Theory and Design of Structures 4"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Develop an understanding of Long column and short column through theories and methods and the way it is used in the structural systems	3	1	1	1	1	3	0	1
CO2	Developing the skill to analyze structural members (fixed beams, columns etc.) through theories and calculations and various ways in which load gets transferred in the structural system	3	3	1	0	0	1	1	1
CO3	In-depth understanding of soil properties and its mechanics and its impact on the structural design	2	2	2	0	1	3	2	1
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional.	2	1	3	2	2	2	2	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 405					
	COURSE NAME: HUMANITIES 4	SEMESTER: IV	CREDITS: 3
	FACULTY: JIMMY, RUTIKA	SESSIONAL MARKS: 50 marks	SCHEME OF EXAMINATION: Theory Paper - 50 marks
	TIME: Monday - 12.00-12.50, 1.20 - 3.00	TEACHING HOURS: 3 slots of 50 mins each	TIME REQUIRED OUTSIDE OF CLASS: AN HOUR
UNIVERSITY COURSE DESCRIPTION	The university syllabus prescribes introducing to the students the History of Architecture of the Indian Subcontinent.		
PEDAGOGIC INTENT	The above objective is achieved by looking at India chronologically and its achievements in comparison to the major developments in Europe (Medieval, Renaissance and Industrial Revolution) and their influences to the subcontinent until the British came down to India and later the advent of Moderism in both pre and post Independence.		
METHODOLOGY	Every era both in India and Europe is introduced by a documentary thereby bringing to the forth socio cultural and political scenarios that led to the specific developments which is further followed up with detailed visual presentation and formal lecture thereby throwing light on the architectural achievements and the contexts they were created.		

SCHEDULE	DAY	DATE	LECTURE SESSION	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1,2	Monday	18-Nov-19	Introduction to the course and the comparative discourse		Visit to the Master Sinan Exhibition
	Monday	25-Nov-19	**Fall of the Roman Empire and the Dark Ages in Europe**		
week 3,4	Monday	02-Dec-19	Social structure of Medieval Europe and castle building		
	Monday	09-Dec-19	Romanesque and Gothic churches		
week 5,6	Monday	16-Dec-19	**Annuals**		Viewing of BBC documentary: The story of India as I shall be in Jaipur
	Monday	06-Jan-20	**Golden era of India during Gupta and Chola dynasty**		
week 7,8	Monday	13-Jan-20	Rock Cut Architecture in Western India		
	Monday	20-Jan-20	Evolution of North and South Indian Temple Style		
week 9,10	Monday	27-Jan-20	Details of South Indian Temple towns		**Visit to the CSTVM for the exhibition India and the world**
	Monday	03-Feb-20	**Renaissance in Europe 1500 AD**		
week 11,12	Monday	10-Feb-20	Principles, proportions, master architects and their works		**Introduction to the Assignment**
	Monday	17-Feb-20	**Medieval India : the rule of the Mughals 1500 AD**		BBC documentary: The story of India
week 13,14	Monday	24-Feb-20	Sultanate and Mughal contributions: patterns, gardens, the		
	Monday	02-Mar-20	mosque, tomb, palace and fort.	25	**Submission of the Assignment**
week 15,16	Monday	09-Mar-20	**The Rule of the Raj: British in India 1700 AD**		BBC documentary : The story of India
	Monday	16-Mar-20	Neo Gothic and Classical V/s Indo saracenic		
week 17,18	Monday	23-Mar-20	**Moderism In India pre Independence**	25	**Submission of the Assignment**
	Monday	30-Apr-20	Moderism In India post Independence		Revision class before the written Exam

EVALUATION CRITERIA	The objective of the assignment is to be able to research on a historic structure, analyse and draw the same in an analytical manner and write on the same for which the student is evaluated for both drawing and well as writing.
LEARNING OUTCOMES	Research and analysis of historic structure by way of drawing based on various principles, patterns, proportions, built hierearchy, etc. as well as being able to write on the same both subjectively as well as objectively.
READING LIST	Architecure of the Wrold series: India, History of India Romila Thapar, History of Architecture Satish Grover, Global history of Architecture Ching Jazomberk Prakash, Indian Art Vidya Dehejia, Architecture and Independence Lang Desai, Architecture of India Rahul Mehrotra

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Humanities 4

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Humanities 4
Course Code: BARC 405 **Sem 4** **Second Year**

Course Objectives:

- To understand architecture as an outcome of socio cultural processes.
- To unpack histories as interpretations rather than as a text.
- To write an architectural history.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understanding architecture as an outcome of socio cultural processes
CO2	Analysing historical ideas and their implications on architectural form
CO3	Adopting the modes of production as a chronological system to dicuss the ideas that lead to a production of architecture

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**		**University Subject Code**		**Sessional Marks:**		**Exercise: Marks out of**	**Credits**	**Date of submission**
SECOND YEAR - SEM 4	**Humanities 4**		**BARC 405**		**50**		**50**	**3**	
Exercise: Title	Essay								
Exercise Note / Task	The student will be evaluated on the idea that they will put forth in the paper. An interim discussion will be to assist the student to articulate the idea.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Discussion through references	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Analysis and Ideas	Innovative. Experimental and Bold Clarity.	Very impressive. Highly demonstrative.	Excellent presentation of ideas.	Very good attempt to present ideas.	More than adequate attempt to present ideas.	Just adequate attempt to present ideas.	No further enquiry.	No further enquiry.	Does not complete the assignment
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 4

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understanding architecture as an outcome of socio cultural processes	2	2	1	2	0	3	3	3
CO2	Analysing historical ideas and their implications on architectural form	1	2	0	0	1	3	2	3
CO3	Adopting the modes of production as a chronological system to discuss the ideas that lead to a production of architecture	1	0	0	0	0	3	2	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 407	COURSE NAME	Architectural Representation and Detailing IV+ College Projects	SEMESTER	Four	CREDITS	4+1CP
	FACULTY	Shirish, Mamta, Vikram, Kimaya, Ginella, Yashada,	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Internal
	TIME	Wednesday 1:20 - 3:00	TEACHING HOURS	3hr 20 min	TIME REQUIRED OUTSIDE OF CLASS	–

what	UNIVERSITY COURSE DESCRIPTION	
why	PEDAGOGIC INTENT	Integrating Architectural Representation and Detailing with Construction
how	METHODOLOGY	Develop specific skill sets for creating presentations and exhibitions. Using the Study Trip meausred drawing as a key component and following it up with a final panel for integrated studio

when	SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
	week 1	Tuesday	19th Nov 2019	Measured Drawing studio	20 Marks	
		Thursday	21st Nov 2019	Measured Drawing studio		
	week 2	Tuesday	26th Nov 2019	Measured Drawing studio		
		Thursday	28th Nov 2019	Measured Drawing studio		
	week 3	Tuesday	3rd Dec 2019	Measured Drawing studio		
		Thursday	5th Dec2019	Measured Drawing studio		
	week 4	Tuesday		Measured Drawing studio		
		Thursday		Measured Drawing studio	20 Marks	
	week 5	Tuesday	7th January 2020	Exhibition Design		
		Thursday	9th January 2020	Exhibition Design		
	week 6	Tuesday	14th January 2020	Exhibition Design		
		Thursday	16th January 2020	Exhibition Design		
	week 7	Tuesday	21st January 2020	Exhibition Design		
		Thursday	23rd January 2020	Exhibition Design		
	week 8	Tuesday	28th January 2020	Exhibition Design	20 Marks	
		Thursday	30th January 2020	Exhibition Design		
	week 9	Tuesday	4th February 2020	Introduction to Integrated Studio Exercise		
		Thursday	6th February 2020	Integrated Studio Exercise		
	week 10	Tuesday	11th February 2020	Integrated Studio Exercise		
		Thursday	13th February 2020	Integrated Studio Exercise		
	week 11	Tuesday	18th February 2020	Integrated Studio Exercise		
		Thursday	20th February 2020	Integrated Studio Exercise		
	week 12	Tuesday	25th February 2020	Integrated Studio Exercise Jury	10 Marks	
		Thursday	27th February 2020	Integrated Studio Exercise Jury		
	week 13	Tuesday	3rd March 2020	Integrated Studio Exercise		
		Thursday	5th March 2020	Integrated Studio Exercise		
	week 14	Tuesday	10th March 2020	Integrated Studio Exercise Jury	10 Marks	
		Thursday	12th March 2020	Integrated Studio Exercise		
	week 15	Tuesday	17th March 2020	Integrated Studio Exercise Final Jury	20 Marks	
		Thursday	24th March 2020	Integrated Studio Exercise Final Jury		
	week 16	Tuesday	26th March 2020	Defaulters Review		
		Thursday	31st March 2020	Defaulters Review		

EVALUATION CRITERIA	submission of exercises, Juries and Exhibition
LEARNING OUTCOMES	Presentation Drawings
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Architectural Representation and Detailing

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpret learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their

own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Representation and Detailing
Course Code: BARC 407 Sem 4 Second Year

Course Objectives:

- To enable the students with representation skills of composition and software.
- To create presentation drawings for the resolved design schemes.
- To learn a software that will aid in creating a working drawing.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Ability to observe, comprehend the tectonic forms within the environmental and cultural context; learning to collaborate as working groups.
CO2	Creating a collective exhibit, representing learnings of observed
CO3	Intuitive understanding of structures through physical
CO4	Comprehension that architectural design is a continuous process and includes its resolved workable solutions.

Rubrics:

Year of Assessment: 2018-2019	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks:**	**Exercise: Marks out of**		**Credits**	**Date of submission**	
SECOND YEAR - SEM 4	**Arch Representation & Detailing**		**BARC 407**	**100**	**100**		**4 + 1 Building Services**		
Exercise: Title	Creation of Representation drawings								
Exercise Note / Task	To make presentation drawings for the resolved AD project of the previous semester.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Representation through drawings	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Ideas for synthesis drawings	Innovative. Experimental and Bold Clarity.	Very impressive. Highly demonstrative.	Excellent presentation of ideas.	Very good attempt to present ideas.	More than adequate attempt to present ideas.	Just adequate attempt to present ideas.	No further enquiry.	No further enquiry.	Does not complete the assignment
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 4

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO 5	PO6	PO7	PO8
CO1	Ability to observe, comprehend the tectonic forms within the environmental and cultural context; learning to collaborate as working groups.	3	3	2	3	3	3	3	3
CO2	Creating a collective exhibit, representing learnings of observed	3	2	2	3	3	3	3	3
CO3	Intuitive understanding of structures through physical	3	3	2	3	3	3	3	3
CO4	Comprehension that architectural design is a continuous process and includes its resolved workable solutions.	2	3	2	3	3	3	3	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 408	COURSE NAME	Architectural Building Services 2	SEMESTER	4	CREDITS	3 + 1 CP
	FACULTY	Minal, Sajna, Durvesh, Bhakti	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 marks
	TIME	Thursday - 8.00 - 11.20	TEACHING HOURS	2.5 hours per week	TIME REQUIRED OUTSIDE OF CLASS	3 Hours

what **COURSE DESCRIPTION**	Understanding the external services of water supply and drainage at site level, system of bulding drainage and underground drainage system, use of I.C and D.C, ventilation system, manhole and sewage disposal system for smaller projects, rainwater disposal that includes roof as well as site level drainage and rainwater harvesting.
why **PEDAGOGIC INTENT**	The primary aim of the course is to facilitate students in internalizing concepts related to water management, health, sanitation, and incorporating them into their design process, fostering an inherent understanding of how buildings function holistically while considering climate, materials, and other relevant factors.
how **TEACHING METHODS**	Theory Lectures, Small Exercises, Case - studies, and Site Visit.

when

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
Week 1	Thursday	21-11-2019	STUDY TRIP WORK - Measure Drawing		
Week 2	Thursday	28-11-2019	STUDY TRIP WORK - Measure Drawing		
Week 3	Thursday	05-12-2019	Introduction to rainwater drainage - Measure Drawing Continues…		
Week 4	Thursday	12-12-2019	**PRE-ANNUAL**		Introduction to case study assignment
Week 5	Thursday	19-12-2019	**ELECTIVES**		
Week 6	Thursday	26-12-2019	**WINTER BREAK**		
Week 7	Thursday	02-01-2020	Water scenario of Mumbai city, Rainwater harvesting systems - Traditional, contemporary and sustainable ones		
Week 8	Thursday	09-01-2020	Rainwater - Storm water systems - traditional, contemporary and sustaiable ideas		
Week 9	Thursday	16-01-2020	Integration studio		
Week 10	Thursday	23-01-2020	Integration studio		
Week 11	Thursday	30-01-2020	**Integration studio + Submission**		
Week 12	Thursday	06-02-2020	Alternative sustainable drainage systems		
Week 13	Thursday	13-02-2020	Integration studio	10%	
Week 14	Thursday	20-02-2020	Introduction to electricity - Integration studio		
Week 15	Thursday	27-02-2020	Integration studio		
Week 16	Thursday	05-03-2020	**FINAL SUBMISSION**	20%	

LEARNING OUTCOMES	The primary aim of the course is to facilitate students in internalizing concepts related to water management, health, sanitation, and incorporating them into their design process, fostering an inherent understanding of how buildings function holistically while considering climate, materials, and other relevant factors.
EVALUATION CRITERIA	The criteria for evaluation is basic understanding of services as an integral part of arcitecture and their importance for achieving not only basic comfort for human habitation but as a design strategy. Assignments are to evaluate this understanding in their application.
READING LIST	WATER HARVESTING SYSTEMS http://archive.indiawaterportal.org/book/export/html/6869, , https://www.mcplanandsiteservices.co.uk/mcpass/technical-library/ , https://www.youtube.com/watch?v=J7NtPkZmy-U https://www.youtube.com/watch?v=J7NtPkZmy-U. Many such sites sites are shared.

CO-PO mapped syllabi of B. Arch Course 2019-2020 – Architectural Building Services 2

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpret learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorize and conceptualize ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project.
6. To enable the student to observe, experience, analyze space, its physicality, and its associations through the body.
7. To enable the student to extract the abstract from the experiential and center it as the basis of design.
8. To enable the student to break the boundary between abstract thought and material realities.
9. To enable students to discover multiple methods and tools to develop their own process of learning.
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive ways of intervening as architects through critical thinking.
2. To enable students with design skills that can navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that can navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding of cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Services 2

Course Code: 408 Sem 4 Second Year

Course Objectives:

The Architectural Building Services course this semester intends to introduce the ecological understanding of site level infrastructure, with a focus on sustainable approaches such as regenerative and passive water flow systems.

With a goal towards achieving sustainability in terms of resource and energy management, this course enables the students to deal with traditional as well as novel techniques to make sites resources efficient.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To identify, assess, need, safeguard, restore and promote sustainable use of global ecosystems through traditional and contemporary approaches of rainwater harvesting systems.
CO2	To understand the framework and modality of stormwater management systems in and around a building, using case study-based approaches.
CO3	To explore and realize the micro and macro level sustainable effluent management systems and further incorporate the relevant strategies in their architectural design projects.

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelor of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
SECOND YEAR - SEM 4	**Arch. Building services**		**BARC 408**	**50**		**3**	**Multiple submissions**		
Exercise: Title	**Technology studio project**								
Exercise Note/task	**Detailed drawings of their tech. project**								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Understanding of systems and their integration with other systems as well as with space	1)Complete understanding of systems 2) its integration with other system 3) its hierarchy in planned space	1)Very good understanding of systems 2) its integration with others and its position in planned space.	Good understanding of systems and its integration and its position in planned space.	Fairly good understanding of systems and their integration and their position in planned space.	1)Understanding of a system is seen along with other systems 2) lacking spatial integration.	1)Lesser understanding of the system is seen along with other systems 2) lacking spatial integration.	1)Poor understanding of the system. 2)No understanding of integration with other systems.	Extremely poor understanding of the system.	Non-Submission
Representation Technique and final submission	Logical and semantic representation	Logical representation	Good representation in all aspect	Good representation in all aspect	Fairly represented in all aspect	The drawings could be understood	Representation needed clarification	Drawings not clear enough	Non-Submission
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To identify, assess, need, safeguard, restore and promote sustainable use of global ecosystems through traditional and contemporary approaches of rainwater harvesting systems.	2	2	0	2	2	2	3	2
CO2	To understand the framework and modality of stormwater management systems in and around a building, using case study-based approaches.	2	0	2	0	1	2	3	2
CO3	To explore and realize the micro and macro level sustainable effluent management systems and further incorporate the relevant strategies in their architectural design projects.	0	0	0	0	1	2	3	2

BARC 409						
	COURSE NAME	Architectural Theory 2	SEMESTER	4	CREDITS	2 + 1CP
	FACULTY	Manoj Parmar, Rutika Parulkar	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	NIL
	TIME	Friday 12.00 to 12.50 pm 1.20 to 3.00 pm	TEACHING HOURS	12o mins per week	TIME REQUIRED OUTSIDE OF CLASS	1hr per week
UNIVERSITY COURSE DESCRIPTION						
PEDAGOGIC INTENT	*To introduce CRITICAL DISCOUSE on contemporary domestic institutional architecture .* *The course emphasizes/explores the term contemporary architectural discourse conceptually as well as contextually. The ethos of modernism has significantly played as dominant force in influencing architecture across the globe. The idea of discourse on contemporary architecture is to explore the necessities of architecture being representative of physical, social and cultural situation as sensitive response. The word situation is referred here as unique qualities and identity that are specific to region.*					
METHOD	**The course contains three parts. The first part aims to examine the outcome of modernist manifesto and reactionary architecture as a response. The second part shall examine the critical question poised in early 70's and their theoretical reflection. The third part shall examine the contemporary architectural discourse under various themes and emerging paradigms**					

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
week 1	Friday	03/01/20	Introduction to Course Framework & Schedule		
week 2	Friday	10/01/20	The lesson from modernism and rationalism		
week 3	Friday	17/01/20	The critical reflection of time, Cultural Criticism & Intellectual Fatigue Robert Venturi. Aldo Rossi. Christooher Alexander. Robe Krier. Leon Krier		
week 4	Friday	24/01/20	Implied Cultural Resonance and Architecture of Quotation. Robert Venturi, Robert Stern, Michael Graves,		
week 5	Friday	31/01/20	ASSIGNMENT I: SELECTED READING PAPER PRESENTATION; 500 WORDS		
week 6	Friday	07/02/20	The Urban Imagination: Myth or Utopia Metabolism: Archigram, Arcosanti		
week 7	Friday	14/02/20	Emerging Architecture I Steven Holl, Rafael Moneo, Alvaro Siza: Surface, Tactility & Materiality		
week 8	Friday	21/02/20			
week 9	Friday	28/02/20	Emerging Architecture II High Tech & High Key: Renzo Piano, Norman Foster, Cesar Pelli, I.M Pei, Kenzo Tange		
week 10	Friday	07/03/20	Discussion on Selected Readings		
week 11	Friday	14/03/20	Self Refrential Architecture Hroshi Hara, Peter Eisenman, Morphosis,		
week 12	Friday	21/03/20	Architecture of Consonance: Ethical and Moral Question Work of Zaha Hadid, Frank Gehry, Herzog De Meuron		
week 13	Friday	28/01/20	Architecture for Branding Frank Gehry, Tadao Ando, Sanna.		
week 14	Friday	04/04/20	GROUP ASSIGNMENT II: Formal Analysis Analytical Drawings GRADE: 70%		
week 15	Friday	10/04/20	Discussion on Assignment		
EVALUATION CRITERIA					
LEARNING OUTCOMES	*Students will be equipped to read theoretical text and analyse the same.* *Formal analysis of structures at different scales and details.*				
READING LIST					

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Architectural Theory 2

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Theory 2
Course Code: BARC 409 **Sem 4** **Second Year**

Course Objectives:

- To enable the students with critical thinking skills.
- To consider the relationship between the 'self' and the frameworks through which it is constructed, and the choices made with respect to design.
- To create a dialectical relationship between the concepts that shaped the object and the nature and presence of the object itself.
- To create an unstable field within which questions and concerns can oscillate constantly critiquing each other.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understanding the ideas and concepts that have shaped architectural thinking
CO2	Analysing and taking a position with respect to acts of design
CO3	Applying the learning by placing the built object in conceptual, cultural and historical context

Rubrics:

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**University Subject Code**	**Sessional Marks: max 100**	**Exercise: Marks out of**	**Credits**	**Date of submission**			
SECOND YEAR - SEM 4	**Arch Theory 2**	**BARC 409**	**50**	**50**	**2AT + 1CP**				
Exercise: Title	Essay								
Exercise Note / Task	Students will select a structure designed after 1950 to discuss and analyse in detail								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Discussion of structure	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Analysis and Ideas	Innovative. Experimental and Bold Clarity.	Very impressive. Highly demonstrative.	Excellent presentation of ideas.	Very good attempt to present ideas.	More than adequate attempt to present ideas.	Just adequate attempt to present ideas.	No further enquiry.	No further enquiry.	Does not complete the assignment
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 4

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understanding the ideas and concepts that have shaped architectural thinking	1	3	3	0	0	3	3	0
CO2	Analysing and taking a position with respect to acts of design	1	3	2	1	0	3	3	2
CO3	Applying the learning by placing the built object in conceptual, cultural and historical context	0	0	1	0	1	3	3	0

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

what

BARC 420	COURSE NAME	COLLEGE PROJECT	SEMESTER	FOUR	CREDITS	3 (1 ABS + 1 ARCH. THEORY + 1 ARD)
	FACULTY	Mamta, Ginella, Yashada, Shirish, Vikram, Kinaya, Aarti, Minal, Raju, Manoj, Rutika	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	INTERNAL
	TIME	3hrs 20mins	TEACHING HOURS	(Wed 1:20-3:00, Thurs 8:00 - 11:20, Friday 12:00 - 15:00)	TIME REQUIRED OUTSIDE OF CLASS	-
UNIVERSITY COURSE DESCRIPTION	*To be developed by Individual Colleges of Architecture.*					

All three course structures of Architecture Building Services, Architecture Theory and Architecture Representation and Detailing are attached under College Project. The credits of College Project are evenly distributed ias indicated in Credits

	COURSE NAME	*Architecture Representation and Detailing*	SEMESTER	*Four*	CREDITS	*4 + 1(College Project)*
	FACULTY	*Aneerudha P, Kaushik M, Shirish J, Ginella G, Vikram P*	SESSIONAL MARKS	*Internal - 100*	SCHEME OF EXAMINATION	*Internal*
	TIME	*Tuesday 12:00 to 3:00, Wednesday 1:20 to 3:00*	TEACHING HOURS	*250 Hrs. / week*	TIME REQUIRED OUTSIDE OF CLASS	*None*

what

UNIVERSITY COURSE DESCRIPTION	*College Project*

why

PEDAGOGIC INTENT	***Scales of Seeing** -The studio is an exploration over 22 weeks to explore the relationship of scale, comprehension and representation of objects and environments. Through the project the student is introduced to technological tools to understand scale, explore scales and represent relationships between living and non - living objects in a system.Vaying scales and relationships between built and natural environmental environments - cities, buildings, landscape, interior objects etc. are explored in this studio. Inherent in these systems are design decisions at various scales and it is hoped that through the course the student is sensitised to them.*

how

METHODOLOGY	*The studio intend to use contemporary technological tools to map sites at various scales. Such tools would assist in scalar as well as visual documention of the site. The project will begin with an introdcution to surveying using the total station survey instrument to map the site selected, divided into quadrants of 100m x 100m. The students will identify systems- living or non living in the sub quadrants. In the following semester experiments in representation of the systems at various scales will be undertaken. One credit from College Project is added to this course.*

when

16.11.2019 - 30.04.2020.....26dec to 1jan

SCHEDULE	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	26.11.2019	*Introduction to Intent, tools, technology& site*		
	27.11.2019	*Introduction to the Levellling methods*		
week2	03.12.2019	*Survey Levelling exercise in class* *Introduction to site*	**10**	*Dumpy level/ Total station exercise*
	04.12.2019	*Survey Levelling exercise on site*		
week 3	10.12.2019	*Site Drawings - Quadrant and Site*		
	11.12.2019	*Site Drawing*		
week 4	17.12.2019	*Site Drawing*		
week 5	07.01.2020	*Final site drawing*	***10***	*1:100 drawingof site*
	08.01.2020	*Identifying sub quadrants*		
week 6	14.01.2020	*Photography workshop- Intrdocution to technology*		
	15.01.2020	*Mapping and representing the sub quadrants*		
week 7	21.01.2020	*Mapping and representing the sub quadrants*		
	22.01.2020	*Mapping and representing the sub quadrants*		
week 8	28.01.2020	*Mapping and representing the sub quadrants*		
	29.01.2020	*Representation drawings of sub quadrants*	***20***	**sub quadrant - scale relevant to studdent**
week 9	04.02.2020	*Representation drawings of sub quadrants*		
	05.02.2020	*Representation drawings of sub quadrants*		
week 10	11.02.2020	*Representation drawings of sub quadrants*		
	12.02.2020	*Representation drawings of sub quadrants*		
week 11	18.02.2020	*Working Studio*		
	19.02.2020	*Working Studio*		
week 12	25.02.2020	*Compilation*		
	26.02.2020	*Compilation*	***20***	
week 13	03.03.2020	*working studio*		
	04.03.2020	*working studio*		
week 14	10.03.2020	*working studio*		
	11.03.2020	*Final submission - preperation of exhibition of work*	***30***	
week 15	17.03.2020			
	18.03.2020	*Exhibition*	***10***	

EVALUATION CRITERIA	***The student will be evaluated on the basis of the 2 submissions one each at the end of the semester.***
LEARNING OUTCOMES	*Presentation Drawings*

READING LIST	*1. Power of 10, Charles and Ray Eames*
	2. Dawrin Comes to Town, Domus india, Volume 8, Issue 8, June -July 2019
	3. Minus Equals Plus, Istavan Banyai
	4. Surveying, Jack McCormac, Wiley; 6 edition 2012
	5. Elementary Surveying: S. I. Adaptation. Michael H. Elfick, John G. Fryer, Russell C. Brinker, Paul R.HarperCollins; 8th edition1994

BARC 408						
	COURSE NAME	Architectural Building Services 2	SEMESTER	4	CREDITS	3
	FACULTY	Minal, Sajna, Durvesh, Bhakti	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 marks
	TIME	Thursday (8.00 - 10.30)	TEACHING HOURS	2.5 hours per week	TIME REQUIRED OUTSIDE OF CLASS	3 Hours

what

COURSE DESCRIPTION	Understanding the external services of water supply and drainage at site level, system of bulding drainage and underground drainage system, use of I.C and D.C, ventilation system, manhole and sewage disposal system for smaller projects, rainwater disposal that includes roof as well as site level drainage and rainwater harvesting.

why

PEDAGOGIC INTENT	The intent of the course is to enable inherent understanding of parameters like natural resources, health and hygiene and sustainability and encompassing it intuitively in the design process. This semester deals with conservation of resources like water and waste. The topics covered are rain water harvesting, storm water systems and management of solid waste management.

how

TEACHING METHODS	Theory Lectures, Small Exercises, Case - studies, and Site Visit.

when

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
Week 1	Thursday	21 Nov	STUDY TRIP WORK - Measure Drawing		
Week 2	Thursday	28 Nov	STUDY TRIP WORK - Measure Drawing		
Week 3	Thursday	5 Dec	Introduction to rainwater drainage - Measure Drawing Continues...		
Week 4	Thursday	**12 Dec**	**PRE-ANNUAL**		Introduction to case study assignment
Week 5	Thursday	19 Dec	**ELECTIVES**		
Week 6	Thursday	26 Dec	**WINTER BREAK**		
Week 7	Thursday	2 Jan	Water scenario of Mumbai city, Rainwater harvesting systems - Traditional, contemporary and sustainable ones		
Week 8	Thursday	9 Jan	Rainwater - Storm water systems - traditional, contemporary and sustaiable ideas		
Week 9	Thursday	16 Jan	Integration studio		
Week 10	Thursday	23 Jan	Integration studio		
Week 11	Thursday	30 Jan	**Integration studio + Submission**		
Week 12	Thursday	6 Feb	Alternative sustainable drainage systems		
Week 13	Thursday	13 Feb	Integration studio	10%	
Week 14	Thursday	20 Feb	Introduction to electricity - Integration studio		
Week 15	Thursday	27 Feb	Integration studio		
Week 16	Thursday	5 Mar	**FINAL SUBMISSION**	20%	

LEARNING OUTCOMES	The intent is to help students to internalize these concepts and encourage them to apply the same for their design as an inherent understanding of the holistic way building works and functions taking climate and material as well into consideration.
EVALUATION CRITERIA	The students are evaluated on their understanding of designing the fire fighting as well as escape systems in their designs considering the density, movements, functions, massing of the building on their site
READING LIST	

BARC 309						
	COURSE NAME	Architectural Theory	SEMESTER	4	CREDITS	2
	FACULTY	Minal, Sajna, Durvesh, Bhakti	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal
	TIME	12:00 noon	TEACHING HOURS	12o mins per week	TIME REQUIRED OUTSIDE OF CLASS	1hr per week

UNIVERSITY COURSE DESCRIPTION	
PEDAGOGIC INTENT	*To introduce CRITICAL DISCOUSE on contemporary domestic institutional architecture .* *The course emphasizes/explores the term contemporary architectural discourse conceptually as well as contextually. The ethos of modernism has significantly played as dominant force in influencing architecture across the globe. The idea of discourse on contemporary architecture is to explore the necessities of architecture being representative of physical, social and cultural situation as sensitive response. The word situation is referred here as unique qualities and identity that are specific to region.*
METHOD	**The course contains three parts. The first part aims to examine the outcome of modernist manifesto and reactionary architecture as a response. The second part shall examine the critical question poised in early 70's and their theoretical reflection. The third part shall examine the contemporary architectural discourse under various themes and emerging paradigms**

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
week 1	Friday	03/01/20	Introduction to Course Framework & Schedule		
week 2	Friday	10/01/20	The lesson from modernism and rationalism		
week 3	Friday	17/01/20	The critical reflection of time, Cultural Criticism & Intellectual Fatigue Robert Venturi. Aldo Rossi. Christopher Alexander. Robe Krier. Leon Krier		
week 4	Friday	24/01/20	Implied Cultural Resonance and Architecture of Quotation. Robert Venturi, Robert Stern, Michael Graves,		
week 5	Friday	31/01/20	ASSIGNMENT I: SELECTED READING PAPER PRESENTATION; 500 WORDS		
week 6	Friday	07/02/20	The Urban Imagination: Myth or Utopia Metabolism: Archigram, Arcosanti		
week 7	Friday	14/02/20	Emerging Architecture I Steven Hall, Rafael Moneo, Alvaro Siza: Surface, Tactility & Materiality		
week 8	Friday	21/02/20			
week 9	Friday	28/02/20	Emerging Architecture II High Tech & High Key: Renzo Piano, Norman Foster, Cesar Pelli, I.M Pei, Kenzo Tange		
week 10	Friday	07/03/20	Discussion on Selected Readings		
week 11	Friday	14/03/20	Self Refrential Architecture Hroshi Hara, Peter Eisenman, Morphosis,		
week 12	Friday	21/03/20	Architecture of Consonance: Ethical and Moral Question Work of Zaha Hadid, Frank Gehry, Herzog De Meuron		
week 13	Friday	28/01/20	Architecture for Branding Frank Gehry, Tadao Ando, Sanna,		
week 14	Friday	04/04/20	GROUP ASSIGNMENT II: Formal Analysis Analytical Drawings GRADE: 70%		
week 15	Friday	10/04/20	Discussion on Assignment		

EVALUATION CRITERIA	
LEARNING OUTCOMES	*Students will be equipped to read theoretical text and analyse the same.* *Formal analysis of structures at different scales and details.*
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020_College Projects 4

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: College Projects 3 **Sem: 3** **Second Year**
Course Code: 320

Course 1: Architecture Representation and Detailing **Sem 3** **Second Year**

Course Objectives:

- To enable the students with representation skills of composition and software.
- To create presentation drawings for the resolved design schemes.
- To learn a software that will aid in creating a working drawing.

Course: College Projects 3 **Sem: 3** **Second Year**
Course Code: 320

Course 2: Building Services **Sem 3** **Second Year**

- The Architectural Building Services course this semester intends to introduce the ecological understanding of site level infrastructure, with a focus on sustainable approaches such as regenerative and passive water flow systems.

- With a goal towards achieving sustainability in terms of resource and energy management, this course enables the students to deal with traditional as well as novel techniques to make sites resources efficient.

Course: College Projects 3 **Sem: 3** **Second Year**
Course Code: 320

Course 3: Architectural Theory **Sem 3** **Second Year**

Course Objectives:

- To enable the students with critical thinking skills.
- To consider the relationship between the 'self' and the frameworks through which it is constructed, and the choices made with respect to design.
- To create a dialectical relationship between the concepts that shaped the object and the nature and presence of the object itself.
- To create an unstable field within which questions and concerns can oscillate constantly critiquing each other.

Course Outcomes (CO): Combined Course Outcomes for Architecture Design and Allied Design Studios

Course Outcome (Co)	Description
CO1	To understand methods of surveying and documentation of contexts.
CO2	To understand ideas and concepts that have shaped architectural thinking
CO3	To apply and evaluate the built through the aspects of time in the given context.
CO4	To identify, assess, need, safeguard, restore and promote sustainable use of global ecosystems through traditional and contemporary approaches of rainwater harvesting systems.
CO5	To explore and realize the micro and macro level sustainable effluent management systems and further incorporate the relevant strategies in their architectural design projects.

Rubrics 1: Architecture Representation and Detailing

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**University Subject Code**	**Sessional Marks:**	**Exercise: Marks out of**	**Credits**	**Date of submission**			
SECOND YEAR - SEM 4	**Arch Representation & Detailing**	**BARC 407**	**100**	**100**	**4 + 2 (CP)**				
Exercise: Title	Creation of Representation drawings								
Exercise Note / Task	To make presentation drawings for the resolved AD project of the previous semester.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Representation through drawings	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Ideas for synthesis drawings	Innovative. Experimental and Bold Clarity.	Very impressive. Highly demonstrative.	Excellent presentation of ideas.	Very good attempt to present ideas.	More than adequate attempt to present ideas.	Just adequate attempt to present ideas.	No further enquiry.	No further enquiry.	Does not complete the assignment
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

Rubrics 3: Architectural Building Services

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelor of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
SECOND YEAR - SEM 4	**Arch. Building services**		**BARC 408**	**50**		**3**			
Exercise: Title	**ARD studio project**								
Exercise Note/task	**Detailed drawings of their tech. project**								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Understanding of systems and their integration with other systems as well as with space	1)Complete understanding of systems 2) its integration with other system 3) its hierarchy in planned space	1)Very good understanding of systems 2) its integration with others and its position in planned space.	Good understanding of systems and its integration and its position in planned space.	Fairly good understanding of systems and their integration and their position in planned space.	1)Understanding of a system is seen along with other systems 2) lacking spatial integration.	1)Lesser understanding of the system is seen along with other systems 2) lacking spatial integration.	1)Poor understanding of the system. 2)No understanding of integration with other systems.	Extremely poor understanding of the system.	Non-Submission
Representation Technique and final submission	Logical and semantic representation	Logical representation	Good representation in all aspect	Good representation in all aspect	Fairly represented in all aspect	The drawings could be understood	Representation needed clarification	Drawings not clear enough	Non-Submission
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

Rubrics 3: Architectural Theory

Year of Assessment: 2019 - 2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks:**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
SECOND YEAR - SEM 4	**Allied 4**		**402**	**100**	**100**	**3+1(CP)**			
Exercise: Title	Assemblies								
Exercise Note / Task	The studio will be organized around 3 tasks : the first two will require students to produce objects for which drawings will be provided by the faculty. The third task will require students to design an object themselves, and then make it.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Attendance and participation in the studio	95% to 100% attendance and extremely participative alongwith taking complete responsibility of the studio assignments	90% to 95% attendance and visibly very participative alongwith sharing responsibilities of studio assignments	85% to 90% attendance and visibly participative alongwith sharing responsibilities of studio assignments	75% to 85% attendance and participative alongwith sharing responsibilities of studio assignments	70% to 75% attendance and participative alongwith sharing responsibilities of studio assignments only when asked	65% to 70% attendance and less participative alongwith sharing responsibilities of studio assignments only when asked	55% to 65% attendance and participative in the studio only when asked	50% to 55% attendance and not participative in the studio	Below 50% attendance and mostly absent in the studio
Ability to build the prototype object and accuracy in tolerances based on the drawings	95% to 100% tolerance and finish of the object	90% to 94% tolerance and finish of the object	85% to 89% tolerance and finish of the object	80% to 84% tolerance and finish of the object	70% to 79% tolerance and finish of the object	60% to 69% tolerance and finish of the object	55% to 59% tolerance and finish of the object	50% to 54% tolerance and finish of the object	Below 50% tolerance and finish of the object
Ingenuity at composing parts of the design together	Premier accuracy in skill set involved to make the	Fine accuracy in skill set involved to make the object and understan	Outstanding accuracy in making the object and understa	Excellent accuracy and display of skill set involved in making the object. Excellent	Good accuracy within limited skill set involved in making the object and	Good accuracy within limited skill set involved in making the object and	Fair accuracy within limited skill set involved in making the object	Need involvment and absolute improvement in skill set to make the object	No involvment and absolute improvement required in skill set involved to
	object and understanding the character and properties of the material. Prefection and complete display of ingunity.	ding the character and properties of the material. Having prospect of achieving perfection.	nding the character and properties of the material but having scope of evolving the overall skill set.	understanding of the character and properties of the material. Scope of achiveing better result.	intent displayed to understanding the character and properties of the material.	loose intent displayed to understanding the character and properties of the material.	and loose intent displayed to understanding the character and properties of the material.	and loose intend displayed to understanding the character and properties of the material.	make the object and no intend displayed to understanding the character and properties of the material.
Conceptualization of the design	Novel idea, Functional Outcome, Finesse	Outstanding idea, Functional Outcome, Very Good Make	Fair idea, Functional Outcome, Good Make	Acceptable idea, Workable Outcome, Good Make	Acceptable idea, Workable Outcome, Fair Make	Average idea/Reproduced (Copied), Workable Outcome, Fair Make	Basic/reproduced idea (Copied), Workable Outcome, Fair Make	vague/reproduced idea (Copied), Workable Outcome, Fair Make	NO outcome
Compatibility and experimentative intention of the idea with the outline of the studio	Most flexible design idea with originality matching the outline of the studio	Flexible enough as a design idea with comparative originality matching the outline of the studio	Flexible with constraints as a design idea with comparative originality matching the outline of the studio	Flexible idea but exhibiting a continuation of an existing idea matching the outline of the studio	Good idea but exhibiting a continuation of an existing idea matching the outline of the studio	Average idea but exhibiting a continuation of an existing idea matching the outline of the studio	Fair idea but exhibiting a continuation of an existing idea matching the outline of the studio	Satisfactory idea but exhibiting a continuation of an existing idea barely matching the outline of the studio	No intent and inclination to develop an idea

COPO Mapping Setup for Sem 4

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To understand methods of surveying and documentation of contexts.	1	0	1	3	2	3	3	1
CO2	To understand ideas and concepts that have shaped architectural thinking	3	1	1	0	0	1	2	1
CO3	To apply and evaluate the built through the aspects of time in the given context.	3	1	1	2	1	2	1	0
CO4	To identify, assess, need, safeguard, restore and promote sustainable use of global ecosystems through traditional and contemporary approaches of rainwater harvesting systems.	0	0	0	0	2	2	1	2

CO5	To explore and realize the micro and macro level sustainable effluent management systems and further incorporate the relevant strategies in their architectural design projects.	0	0	0	0	1	2	0	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation

0 – No Correlation

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Third Year

Program Specific Objectives

1. At third year, owing to the learning trajectories from previous years, students are enabled to position themselves concerning the role of architecture in society through understanding of cultural, socio-economic and environmental networks at the neighborhood levels.

2. Courses are designed to integrate the design and technology holistically through design processes, analytical methods and technological resolution through a fine set of resolved and detailed drawings.

3. It enables a student to develop his/her own personalized toolkit and technique for design thinking for architecture.

4. The courses in the third year help develop questions around the self and the relation with society. It is made evident here the shifting roles that the architect happens to play in order to fulfill the desired outcome.

Third Year

Pedagogic Intent

Primary Dialectical Questions : Self - Other / Individual - Collective / Technical - Social

In the Third Year, the focus is on exploring the Identity of the Self. Identity here is not imagined as a fixed and stable entity, but rather as a mode through which one participates in the world. The identity of the architect, the role she plays in the shaping of value systems and built form here are central questions. As the Third Year is also seen as the end of Stage 1 of a students architectural education by the Council of Architecture, this is also the space where all the different aspects of the act of architecture from conceptual explorations, contextual responses, programmatic strategies, diagramming and detailing have to be demonstrated in a holistic manner. Having given an opportunity to evolve their own trajectories of learning in the second year, the nature of the questions asked by the course focus on challenging the students to arrive upon their own position concerning the role of architecture in society. The Third year broadens the scope to include questions of socioeconomic structures, power and value systems.

Design Studios

Courses: Architectural Design, Allied Design,

The Third Year Design Studio is the space where the student is asked to demonstrate her position with respect to the role that architecture can play in society. As such it uses the idea of the Institution to provoke students to meditate on the nature of identity, value systems of society, institutional systems and structures and their architectural manifestations. The Third Year studio therefore also wants the students to seriously think about their own identities as citizens and as architects and the value systems that they as architects would like to engage with. The projects are programmatic investigations as much as they are architectonic explorations. The students explore the idea of the Diagram as the distillation of the architectural idea. The first projects investigate institutions in and around the city of Mumbai, while the second semester projects are based on a study trip. In both cases the role of the institution within its context is investigated through the value systems it represents, the architecture itself. Students are encouraged to critically examine both and are asked to arrive upon a position from where they can relook at the programming and architecture of the institution. Over the past few years institutional investigations have explored Institutions of the Democratic State, and Institutions of Faith, or community-based institutions around the country.

The Allied Design Studio introduces students to the fields of ecology and landscape architecture. The studio is curated with the intent to inculcate sensitivity in the students to discern the interconnected ecological systems and to be able to read the various landscape entities (both biotic and abiotic), their interrelationships and influences in shaping the place. The studio also looks at exploring this understanding to allow for the students to plan and design experiential landscape spaces (both independent and in conjunction with architecture). In the odd semester, emphasis is given to architectural and spatial understanding of landscape planning and design focusing on smaller scales that are experienced immediately outside the architectural footprint. In the second semester the architectural design studio sites and the students' architectural design interventions are integrated into the allied design studio space to extend to landscape programmatic investigations and design expressions. The Allied Design studio exercises deal with hands-on interventions to understand and work with topographic tectonics, environmental indicators and to equip the student to be able to respond to them through a series of landscape-oriented operations.

The Technology and Representation Studios

Context and Systemic Questions

Courses: Technology Studio, Technology Lecture 1, Technology Lecture 2, Tectonic Studies, Theory of Structures

The Third Year Technology Studio focuses on the integration of the systems learnt in the previous semesters towards design. A student is exposed to different structural systems, construction methodologies and the performances of archetypes (tectonic forms, systems, material usages, economics and ecological/ cultural values). This includes understanding the relationship of organisational diagramming to structural systems and details. An important mode of learning in this semester involves case studies of buildings for choices of structure, organisational systems and material systems towards building expression. Live visits to building sites are also integral to the learning. In the Sixth semester this is done through a studio that resolves design ideas towards execution drawings by the making of detailed working drawings, resolving questions of climate control, building services, quantification, etc. The studio is also interested in introducing students to new computer aided design and representation techniques like BIM.

The Study Trip

The Third Year study trip is interested in understanding the relationship of Institutional systems and their architecture and the way they emerge from and engage with community structures, value systems, histories and the everyday life of people. Like the Second Year design studio, there is a conscious attempt at exploring contexts that have often lain outside the discourse of mainstream architectural thought. The study trip uses a variety of different modes of reading the contexts including observation, interviews and institutional analysis. These are compiled together in an exhibition that not only adds to the repository of architectural knowledge but also becomes a space for the exploration of new and experimental modes of architectural representation.

Architectural Theory

The course intends to expose students to the concerns / concepts / methods and tools of cultural practices and allow them to analyse them critically with respect to their contexts. The focus of the year is on late-twentieth century cultural practices and attempts to bridge disciplines through common concerns. The year is divided into two semesters. The 5th semester traces the trajectory of architecture across the second half of the twentieth century to contemporary times. The next semester begins with keywords around themes of 'Reconfiguring Modernity'.

Discussions are encouraged through selected readings and projects. The attempt is to allow students to explore the relationship between thought and practice in cultural works, but through the particularity of the here and now.

History Course

The fifth semester looks at applying the constellation of ideas, discussed in the earlier four semesters, to trace and write the history of a built object in the city of Mumbai/their place of residence. It is hoped that through the exercise, the student is able to deal with shifting scales in the historiography of the historical object.

Tenet Of Interculture

Humanities Courses

The Third Year course will introduce the concept of social groups and interests (organizations, associations, etc) to understand social action. The intention is to shift inquiry from built space to the process of its production, and to grasp the contested nature of spatial production. The city of Mumbai will be the main object of investigation.

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Semester 5

Scheme of Teaching and Examinations

Scheme of Teaching and Examinations
Bachelor of Architecture (B. Arch.) Semester V

	Semester V Exam conducted by individual colleges	Teaching Scheme		Credits		
Sub. No.	SUBJECTS	Lecture	Studio	Theory	Studio	Total
BARC 501	Architectural Design Studio 5		8		8	8
BARC 502	Allied Design Studio 5		3		3	3
BARC 503	Architectural Building Construction 5	3	3 classes of technology studio	3	1	4
BARC 504	Theory & Design of Structures 5	2		2	1	3
BARC 508	Architectural Building Services 3	2		2	1	3
BARC 505	Humanities 5	3		3		3
BARC 507	Architectural Representation & Detailing 5	2	2	2	2	4
BARC 509	Architectural Theory 3	2		2		2
BARP 520	College projects 5		3		3	3
BARE 521	Elective 5		3		3	3
	Total	14	22	14	22	36

	Semester V Exam Exam conducted by individual colleges	Examination Scheme			
Sub. No.	SUBJECTS	Theory (paper)	Internal	External viva	Total
BARC 501	Architectural Design Studio 5		100	100	200
BARC 502	Allied Design Studio 5		100		100
BARC 503	Architectural Building Construction 5	50	50		100
BARC 504	Theory & Design of Structures 5	50	50		100
BARC 508	Architectural Building Services 3	50	50		100
BARC 505	Humanities 5	50	50		100
BARC 507	Architectural Representation & Detailing 5		100		100
BARC 509	Architectural Theory 3		50		50
BARP 520	College projects 5		100		100
BARE 521	Elective 5		100		100
	Total	200	750	100	1050

Semester 5

Semester 5

Time-Table

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
8.00 - 8.50	WORKING DRAWING: ARCHITECTURAL REPRESENTATION AND DETAILING		ARCHITECTURAL DESIGN		ARCHITECTURAL BUILDING CONSTRUCTION		ALLIED DESIGN : ALLIED DESIGN		ARCHITECTURAL DESIGN		THEORY AND DESIGN OF STRUCTURES	
	BARC 507	*4*	*BARC 501*	*4 OF 8*	*BARC 503*	*4*	*BARC 502, BARC 504*	*3 + 1 EXTRA*	*BARC 501*	*4 OF 8*	*BARC 604*	*3*
8.50 - 9.40	JIMMY	MINAL	ROHAN	JUDE	JIMMY	DNYANESH	SANDEEP	SANNYUKTA	ROHAN	JUDE	BHARGAV	KUMARAGURU
	AINSLEY	MIHIR	MAYURI	SHILPA G	SHREY	RUTIKA	SHWETA	RHHEA	MAYURI	SHILPA G	NEERAJ	
9.40 - 10.30	DURVESH	DNYANESH	SANDEEP	APURVA P		SANDHYA	PRACHI	SAMIRA	SANDEEP	APURVA P		
	NEMISH		RHHEA	VISHAL					RHHEA	VISHAL		
10.30 - 11.20			TA- ALAY						TA- ALAY			
11.20 - 12.00												
12.00-12.50	BOQ: COLLEGE PROJECT		HISTORY: HUMANITIES		ENCOUNTER		ARCHITECTURAL BUILDING SERVICES					
	BARP 520	*3*	*BARC 505*	*3*			*BARC 508*	*3*				
12.50 - 1.20	2											
1.20 - 2.10			JIMMY	NISHA			MINAL	KIMAYA	ARCHITECTURE THEORY			
		RUTIKA	SANAEYA	SARA			SANJANA	JIMMY	BARC 509	2		
2.10 - 3.00	JIMMY	NEERAJ					DURVESH		ROHAN	SHIRISH		

BARC 501						
	COURSE NAME	ARCHITECTURAL DESIGN	SEMESTER	SEM 5	CREDITS	8
	FACULTY	Rohan Shivkumar, Namrata Kapoor, Shilpa Gore Shah, Mayuri Sisodia, Avneesh Tiwari, Apurva Parikh, Prashant Prabhu, Jude D'souza	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	100
	TIME	8.00-11.20 (Tuesday and Friday	TEACHING HOURS	400 minutes per week	TIME REQUIRED OUTSIDE OF CLASS	7h

UNIVERSITY COURSE DESCRIPTION	Course Objectives • To understand the potential of urban land and optimization of spaces • To understand architectural forms, and corresponding functions for different types of buildings. Expected Course out come Architecture for urban commercial, recreation, entertainment activities for large group of people with respect to following • Development of appropriate architectural forms, their grouping and composition, • Provision of spaces required for various activities. • Provision of spaces for required infrastructure and services

PEDAGOGIC INTENT

Afflictions of the Periphery
A case for Mumbra, Maharashtra

The third-year design studio explores the architecture of the institutions created by the modern Indian state to administer and maintain its democracy. Conventionally within the government, these institutions fall within the classic triad of the Legislative, the Executive, and the Judiciary. Besides these, outside the influence of the three is the 'fourth estate'- the press. Each of these imagine the citizen and by extension the 'public' in different ways. This affects the way that the programme of the project is shaped, as well as the architectural gestures chosen organisationally, and symbolically. Sometimes seen as landmarks that become icons to represent the collective aspirations of the democracy, they are also sometimes framed as the necessary infrastructure upon which the edifice of the nation-state is built. The architecture of these institutions veers uneasily between these two poles. As landmarks, these buildings stand outside everyday life- as monuments to ideals that are seen as 'timeless'. In this attempt they often alienate the very public that they claim to represent. As infrastructure, the metaphor of the machine leads to an architecture that is placeless and banal. The country is littered with many of these born out of the strictures of the 'minimum necessary'.

The third-year exploration of institutions will be exploring the paradigms through which the institutions of democracy can be reimagined.

Cities are built on desires: individuals leaving the confines of familiar spaces to find themselves anew in places of opportunity and freedom. Here they find meagre footholds, new forms of family, new kinds of community, new notions of privacy and public life. Cities are places that offer opportunities for transformation, not only economic betterment, but also, improved cultural, educational and health facilities than the rural hinterland.

The city centre is the symbolic centre that represents the collective aspirations of a society. These are housed in the nature and the form of the institutions it has imagined for its citizenry. They provide the citizens with the scaffolding to build better lives, and are often part of the monumental scheme of the city centre. In our democratic society these ideals are housed in the Preamble to the Constitution of the country - freedom, equality, justice and fraternity.

However, there are many kinds of landscapes in our cities. The periphery of the city is the location for many communities to find a foothold to make their lives. Those who have been displaced from the centre of the city for various reasons, by choice or by force, find homes here; as do rural migrant labour escaping from appalling conditions in rural hinterlands looking for a better life.

These spaces are bereft of institutions and infrastructure to support their quest for a better life.
It is the Municipal Corporation which is mandated with the responsibility to provide the infrastructure where opportunities can be made available to the public. However, its role in many of these peripheral communities is negligible. Local organisations and systems, of varying degrees of authorisation step in and take its role. With increasing privatisation there has been a gradual relinquishing of the role of the state to the forces of the market or to political fiefdoms.

The project explores the role of the state in these peripheral communities by suggesting institutional and infrastructural insertions in peripheral districts of the city to be built by the Municipal Corporation. To arrive upon the strategy, the student will explore a particular geography of the city. They will then explore the narratives of people and communities who lie on the outskirts of the city. These narratives shall indicate the nature of the intervention needed for that particular geography. Students shall then suggest programmatic and formal strategies on a given site.

Phase 1: Narratives on the Edge
Starting with the postcard as a format, the students identified individuals from different age and gender groups. They studied their lives, the spaces that they inhabit and the aspirations that they have. They also studied the way that these lives intersect with institutional systems - both formal and informal.

Phase 2: The Afflictions
The intent of the studio was to take a non-linear approach to the design project. The students were introduced to "The Afflictions", a book by Vikram Paralkar. It is an anthology of pseudo diseases, which sometimes act as an imperium rather than a harmful defect. Each student was provided an affliction to study and analyse. This Affliction was then used by students as a lens to look at the people, institutions and fabric of Mumbra.

Phase 3: The Role of the State
The students now take the position of the state and arrive upon a programmatic strategy for a given site. The programme development is supported by case studies, government policies, interviews, narratives, afflictions etc.

Phase 4: Site Strategy and Concept
The narratives gathered from the site and assuming the position of the state helps the students to choose a site in their transect. The afflictions are used as lens in the entire process. They then arrive upon a site strategy for the project. Formal and abstract concepts emerge to situate the project physically.

Phase 5: Building Evolution
The graphics evolve from diagrams to architecture in this 6 week long phase. While the drawings are refined in regards to details and methods, the students resolve all aspects of building planning including materiality, structure, light, ventilation, fenestrations, services, facade, plinths and
landscape.

Phase 6: Representation
Visual representation is a powerful tool for articulation of the thoughts, process and intent of the project. This final phase of the studio focuses on visual representation and composing the entire project in a set of sheets.

Mumbra
Mumbra, a city and a suburb of Thane district in the state of Maharashtra, is located within the Greater Mumbai area. Named after Mumbra devi, the prime deity of Agri and Koli tribes, Mumbra is situated between Desai khadi (a branch of Ulhas river) in the east, and Parsik hills on the west. It is hence located on an extremely narrow stretch of land which slopes from the hill towards the khadi.

Once an agricultural land, Mumbra faced several waves of urbanisation and migration. The first was signaled as part of expansion of the greater Mumbai area, which realised significant population growth in 1980s. A large surge in population occured after the riots of 1992, when many muslims fled Mumbai and were resettled in Mumbra by the state government and the state WAQF board.

Mumbra is a densely populated suburb with varying typologies of buildings. The multiple typologies are distributed along the cross sections from west to east. One of the reasons for the above is Mumbra's location and topography. The suburb is located on a narrow stretch of land which slopes from the Parsik hills on the west to Desai khadi and mangroves in the east. This topography and landscape of Mumbra is majorly responsible for the changing typology of buildings, which further impacts the economic and sociopolitical conditions along the cross sections.

The study of Mumbra was divided into 8 cross sections or "transects". Students were segregated into groups of 10, with each group studying one transect. Starting with the postcard as a format, students identified individuals from different age and gender groups along the transects. They studied their lives, the spaces they inhabit and the aspirations they have. They also studied the way their lives intersect with institutional systems - both formal and informal.

Studio Intent: To enable students to viscerally experience and represent the city; to grapple with questions concerning the role of institutions and the language of architecture; to be able to critically take a position with respect to a given reality.

METHOD	The Course is a studio based interactive studio. Students are assigned a guide for the project who oversses and directs the project along with the student. They meet twice a week. There are periodic reviews held and a final external review culminates the project,

SCHEDULE		DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT /
week 1	Tuesday	4-Jun-19	Introduction		
	Friday	7-Jun-19	Programme Analysis		
week 2	Tuesday	11-Jun-19	Programme Analysis		
	Friday	14 Jun 19	Programme Analysis		
week 3	Tuesday	18 Jun 19	Programme Analysis (Lecture on the DP)		
	Friday	21 Jun 19	Programme Analysis		
week 4	Tuesday	25 Jun 19	Programme Analysis		
	Friday	28 Jun 19	Site Analysis		
week 5	Tuesday	2 Jul 19	Site Analysis		
	Friday	5 Jul 19	Design Ideas		
week 6	Tuesday	9 Jul 19	Design Ideas		
	Friday	12 Jul 19			
week 7	Tuesday	16 Jul 19	Concept Jury	20	
	Friday	19 Jul 19	Project Evolution		
week 8	Tuesday	23 Jul 19	Project Evolution		
	Friday	26 Jul 19	Project Evolution		
week 9	Tuesday	30 Jul 19	Project Evolution		
	Friday	2 Aug 19	Project Evolution		
week 10	Tuesday	6 Aug 19	Project Evolution		
	Friday	9 Aug 19	Project Evolution		
week 11	Tuesday	13 Aug 19	Project Evolution		
	Friday	16 Aug 19	Design Development Jury	20	
week 12	Tuesday	20 Aug 19	Project Evolution		
	Friday	23 Aug 19	Project Evolution		
week 13	Tuesday	27 Aug 19	Project Evolution		
	Friday	30 Aug 19			
week 14	Tuesday	10 Sep 19	Project Evolution		
	Friday	13 Sep 19	Prefinal	20	
week 15	Tuesday	17 Sep 19	Project Evolution		
	Friday	20 Sep 19	Project Evolution		
week 16	Tuesday	24 Sep 19	Project Evolution		
	Friday	27 Sep 19	Project Evolution		
week 16	Tuesday	1 Oct 19	Project Evolution		
	Friday	5 Oct 19	Final	40	

EVALUATION CRITERIA	*Site and Programme Analysis, Master Plan and Design Concept, Design Resolution, Representationn*
LEARNING OUTCOMES	• To enable students to understand programme evolution and institutional structures • To enable students to arrive upon architectural ideas that are able to address institutional mandates and urban contexts • To enable students ot evolve their own positions and processes towards the design of a building. • To enable students to resolve architectural ideas with technical resolution and details.
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020

Architectural Design

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Design **Sem: 5** **Third Year**
Course Code - BARC 501

Course Objectives:

- To enable students to understand programme evolution and institutional structures
- To enable students to arrive upon architectural ideas that are able to address institutional mandates and urban contexts
- To enable students ot evolve their own positions and processes towards the design of a building.
- To enable students to resolve architectural ideas with technical resolution and details.
- To be able to present and communicate their projects successfully.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understand and evaluate institutional systems and architecture at strengthening and safeguarding the interests of the collective
CO2	Analyse and Apply critical thinking to the design of institutions in a particular context and their architecture
CO3	Create one's own process for the development of the design.
CO4	Create programmatic and spatial strategies for the design of an institutional building that incorporates technical knowledge learned in other courses
CO5	Create and present a well resolved design project

Year of Assessment :	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject: Technical Studio**	**University Subject Code**		**Sessional Marks: 100**	**Exercise 01: Marks out of 100**	**Credits**	**Date of submission**		
3 Year, 5 Semester	**Architectural Design**	**BARC 501**		**100**		**8**	**5 October 2019**		
Exercise: Title	Afflictions of the Periphery: Mumbra								
Exercise Note / Task	Final Jury with sheets, models and presentation								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Attendance and participation in the studio	95% to 100% attendance and extremely participative alongwith taking complete responsibility of the studio assignments	90% to 95% attendance and visibly very participative alongwith sharing responsibilities of studio assignments	85% to 90% attendance and visibly participative alongwith sharing responsibilities of studio assignments	75% to 85% attendance and participative alongwith sharing responsibilities of studio assignments	70% to 75% attendance and participative alongwith sharing responsibilities of studio assignments only when asked	65% to 70% attendance and less participative alongwith sharing responsibilities of studio assignments only when asked	55% to 65% attendance and participative in the studio only when asked	50% to 55% attendance and not participative in the studio	Below 50% attendance and mostly absent in the studio
Proactiveness while on the study trip / site visit and pitching in completing the study post the visit.	Extremely active at organizing group work and preparing supreme quality drawings	Moderately extreme active at organizing group work and preparing supreme quality drawings	Less moderately extreme active at organizing group work and preparing supreme quality drawings	Highly moderately active at organizing group work and preparing supreme quality drawings	Just active at organizing group work and preparing moderate quality drawings	Seldom activeness at organizing group work and preparing satisfactory quality drawings	Not organizing group work and preparing satisfactory quality drawings	No active participation in class	Disinterested
Contextualization of the design concept and resolution of building	Par excellence accuracy and at contextualization of the design intent along with exceptional understanding of structure and services	Outstanding performance at contextualization of the design intent with excellent understanding of technology subjects	Greater excellence at contextualization of the design intent, with skilled design prowess including understanding of technnocsal subjects	Excellence of contextualization of the design intent, align with interesting design choices and resolution	Very good accuracy at contextualization of the design intent building design and resolution skills	Good contextualization of the design intent, along with good building design and resolution skills	Fair contextualization of the design intent, average building design and resolution skills	Satisfactory contextualization of the design intent, with average building design and resolution skills	Below average contextualization and understanding of the design intent, and below average design skills and technical understanding.

COPO Mapping Setup for Sem 5

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	Understand and evaluate institutional systems and architecture at strengthening and safeguarding the interests of the collective	3	0	0	2	3	0	3	0
CO2	Analyse and Apply critical thinking to the design of institutions in a particular context and their architecture	2	2	2	2	0	1	3	0
CO3	Create one's own process for the development of the design.	0	3	3	0	0	2	1	0
CO4	Create programmatic and spatial strategies for the design of an institutional building that incorporates technical knowledge learned in other	0	3	3	0	0	1	2	0
CO5	Create and present a well resolved design project	0	2	1	0	2	0	0	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 502	COURSE NAME	ALLIED DESIGN: LANDSCAPE	SEMESTER	Sem V	CREDITS	3+1 (extra)
	FACULTY	SANDEEP M, SHWETA W, SAMIRA R, RHEA S, PRACHEE V, SANYUKTA	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	-
	TIME	08.00- 11.20	TEACHING HOURS	200 MINUTES a week	TIME REQUIRED OUTSIDE OF	3.20 hrs

what

UNIVERSITY COURSE DESCRIPTION	The course content will be developed by individual colleges as per their design preference.

why

PEDAGOGIC INTENT	Sensitising the students regarding the interconnected ecological systems and the various landscape entities (both biotic and abiotic), their interrelationships and influences in shaping the place. Emphasis is given to discern and study the various systemic webs by using the city of Mumbra-Kausa as a case study. The Allied Design studio focuses on research led design interventions in landscape as a primary method for the studio.

how

METHODOLOGY	The course will be conducted with short lecture presentations by the faculty on each aspect of landscape that the studio will be focusing on. The lectures will be supplemented by case studies and an exercise that equips the students a set of basic techniques/ methods pertaining to the topic. The sites for study and intervention are chosen in conjunction with the Architectural Design Studio (with focus on the Peri-Urban Conglomerations) for better integration between the subjects. The case study sites being periurban areas, have conditions pertaining to urban as well as The fifth semester will culminate in a short esquisse which will be a culmination of the research the students worked on.

when

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Thursday	13-Jun-19	Introduction to the Course		
week 2	Thursday	20-Jun-19	Introduction to Topography		Slope and Elevation analysis
week 3	Thursday	27-Jun-19	Introduction to Hydrology	**10**	Watershed Mapping
week 4	Thursday	04-Jul-19	Intorduction to Soils and Geology		Discussion
week 5	Thursday	11-Jul-19	Introduction to Vegetation		Introduction of Assignment
week 6	Thursday	18-Jul-19	Brief overview of Ecology		Discussion. Introduction of the research based
week 7	Thursday	25-Jul-19	Review of Research and Work		strengthening Arguments
week 8	Thursday	01-Aug-19	Review of Research and Work First Draft	**10**	Assessment of 1st Draft
week 9	Thursday	08-Aug-19	Review of Research and Work Second Draft	**10**	Assessment of 2nd Draft
week 10	Thursday	22-Aug-19	Final submission of the Assignment	**20**	Evaluation
week 11	Thursday	29-Aug-19	Introduction of Design Esquisse		strengthening Arguments
week 12	Thursday	05-Sep-19	Design Esquisse-First Draft Discussion		Table Discussions
week 13	Thursday	12-Sep-19	Review and Presentation		Table Discussions
week 14	Thursday	19-Sep-19	**Final submission**	**50**	Final Assessment

EVALUATION CRITERIA	The assessment of the work of the students is divided as: Assignments Group work/Individual will be assessed on the basis of quality of the work, conceptual understanding and representation, accuracy and authenticity, presentation; completion, quality of ideas explored, application of student in class, quality of work (final product) , perseverence Students will be evaluated based on their ability to demonstrate drawing and making skills, ability to question the taught

LEARNING OUTCOMES	1. Sensitising students to the nuances of ecological systems and their interrelationships 2. Understanding in a broad sense, the relationship between the built environment and the larger ecological region. 3. Exposure to the method of evolving design programme as an outcome of research

READING LIST	**Landscape of Man** by Geoffery Jellicoe; **Landscape as Inspiration** by Hans Dieter Schaal, **Landscape Graphics** by Reid, **Site Planning** by Kevin Lynch, **Soak** by Anuradha Mathur and Dilip Da Cunha **The Granite Garden-Urban Nature and Human Design** by Anne Whiston Spirn (1985) **Toward an Urban Ecology: SCAPE / Landscape Architecture** by Kate Orf

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Allied Design

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective).
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Allied Design
Course Code: BARC 502 **Sem 5** **Year Third Year**

Course Objectives:

The Allied Design studio focuses on research-led design interventions in the landscape as a primary method for the studio. Also sensitizing the students regarding the interconnected ecological systems and the various landscape entities (both biotic and abiotic), their interrelationships, and their influences in shaping the place. Emphasis is given to discerning and studying the various systemic webs by using the city of Mumbra-Kausa as a case study.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To apply ways of seeing and representing un-built entities (both anthropogenic and natural) and their experiential qualities.
CO2	To understand the broader sense of the relationship between the built environment and the larger ecological region.
CO3	To analyze and integrate the observations from the contexts into their design programmes.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem:	**Subject:**	**University Subject Code**	**Sessional Marks**	**Exercise 01 - Marks out of**	**Credits**	**Date of submission**		
THIRD YEAR - SEM 5	**Allied Design**	**BARC 502**	**100**	**100**	**3 + 1 (extra)**			
Exercise: Title	Discerning and studying the various systemic webs of the city: a case Mumbra-Kausa region.								
Exercise Note / Task	The exercise equips the students with a set of basic techniques/ methods pertaining to the topic. The sites for study and intervention are chosen in conjunction with the Architectural Design Studio (with a focus on the Peri-Urban Conglomerations) for better integration between the subjects. The case study sites being peri-urban areas have conditions pertaining to urban as well. The fifth semester will culminate in a short esquisse which will be a culmination of the research the students worked on.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Attendance and participation	100 to 95% very active presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence
Data Gathering/ monitoring and collating	Showcasing all adopted tools, and frameworks to develop a methodology to critique and analyze the data collected	Showcasing well outstanding insights adopted tools, and frameworks to develop a methodology to critique and analyse the data collected	Showcasing Outstanding insights using tools, and frameworks to develop a methodology to critique and analyse the data collected	Showcasing excellent insights using adopted tools, and frameworks to develop a methodology to critique and analyse the data collected	Showcasing very good insights using adopted tools, and frameworks to develop a methodology to critique and analyse the data collected	Showcasing good insights using adopted tools, and frameworks to develop a methodology to critique and analyze the data collected	Showcasing fair insights using adopted tools, and frameworks to develop a methodology to critique and analyze the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks

Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and design intent	Well-curated outstanding analytical drawings and clarity in explaining the concept and design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and design intent	Basic level of inquiry incorporating the minimum requirements	Arbitrary and Adhoc Inquiry
Representation Technique and final submission	Very well-formatted presentation of case studies explaining concepts, the process adopted using diagrams, sketches, and assessment	Well-formatted presentation of case studies explaining concepts, and processes adopted using diagrams, sketches, and assessment	Clear formatted presentation of case studies explaining concepts, processes adopted using diagrams, sketches, and assessment	Very good formatted presentation of case studies explaining concepts, the process adopted using diagrams, sketches, and assessment	Good formatted presentation of case studies explaining concepts, the process adopted using diagrams, sketches, and assessment	Fairly formatted presentation of case studies explaining concepts, the process adopted using diagrams, sketches, and assessment	Barely managed to get clarity of intent and study using poor diagrams and sketches	Less clarity in terms of ideas and processes to be followed	Absolutely no clarity of thought and understanding of the subject

CO-PO mapping for a course of "UG Program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To apply ways of seeing and representing un-built entities (both anthropogenic and natural) and their experiential qualities.	2	1	2	2	1	2	3	3
CO2	To understand the broader sense of the relationship between the built environment and the larger ecological region.	1	2	1	1	2	2	3	2
CO3	To analyze and integrate the observations from the contexts into their design programmes.	2	1	1	1	2	3	2	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Building Construction and Materials 5*

BARC 503					
	COURSE NAME	Architectural Building Construction and Materials 5	SEMESTER	5	CREDITS	4
	FACULTY	Jimmy, Shrey, Dnyanesh, Rutika, Sandhya	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Sessional Marking and Examination
	TIME	Wednesday 08.00- 11.20	TEACHING HOURS	48	TIME REQUIRED OUTSIDE OF CLASS	12

what	**UNIVERSITY COURSE DESCRIPTION**
	Lightweight skin systems to RCC and MS frammed buildings along with the detailing of core and fenestrations, cladding, curtain wall systems, etc. Shallow foundations and raft foundations to framed structures.
why	**PEDAGOGIC INTENT**
	Student to be made well versed with analytical as well as detailing skills of framed structures(RCC + MS steel) whereby all aspects of structure and skin are understood well in detail so as the same may help the student in resolution as well as detailing of working drawings in the subsequent semester.
how	**METHOD**
	Lecture of an hour and a half of a relevant topic is delivered, followed by application of the same by way of sketch design and detailing to a sub

when	SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
	week 1	Wednesday	12-Jun-19	Introduction to course content and the approach to the subject		
	week 2	Wednesday	19-Jun-19	recap to primary slab systems and its detailing		
	week 3	Wednesday	26-Jun-19	recap to primary slab systems and its edge designs		
	week 4	Wednesday	3-Jul-19	resolution and detailing for RCC structure		Intro. To Assignment 1
	week 5	Wednesday	10-Jul-19	compilation of the case study		
	week 6	Wednesday	17-Jul-19	compilation of the case study	20	Assessment of the documentation
	week 7	Wednesday	24-Jul-19	Detailing of advanced slab systems		
	week 8	Wednesday	31-Jul-19	Detailing of advanced slab systems		
	week 9	Wednesday	7-Aug-19	Detailing of advanced slab systems	5	Progressive interaction
	week 10	Wednesday	14-Aug-19	Detailing of advanced slab systems		
	week 11	Wednesday	21-Aug-19	Assessment of advanced slab systems	15	Progressive interaction
	week 12	Wednesday	28-Aug-19	Ms systems for Institution typologies		
	week 13	Wednesday	4-Sep-19	Ms systems for Institution typologies	10	Progressive interaction
	week 14	Wednesday	11-Sep-19	Ms systems for Institution typologies	10	Progressive interaction
	week 15	Wednesday	18-Sep-19	Ms systems for Institution typologies	15	Prefinal assessment
	week 16	Wednesday	25-Sep-19	Final Submission	25	Final Portfolio

EVALUATION CRITERIA	Evalution criteria usually comprises of progressive class work and assessment of sketch design as well as resolution through small week long exercises based on the theoritical lectures and case studies put forth, site monitoring of an ongoing site and report for the same as well as a class test shall also contribute to 25% of the assessment.
LEARNING OUTCOMES	Student should have derived the ability to resolve structure through innovation, understand the strengths and limtations of the material adopted for structure along with detailing of the skin to help understand design criteria, material application and market practices of the systems adopted in an organised manner.
READING LIST	Building construction Handbook by Chudley & Greeno, Building Construction Illustrated by Ching, Construction material methods and techniques by Spence and Kultermann, Fundamentals of building construction by Allen and Iano

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognise and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete)
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Construction and Materials 5
Course Code: BARC503 Sem 5 Third Year

Course Objectives:

- The intent as per the construction learning curve is to introduce and help students understand structures of Institution typology as last year the same was on housing and domesticity.
- Planning, structural system design, scale, fenestrations, and skins that lend specific identity/character to Institutional buildings shall be addressed in both resolution as well as detailing.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Analyze and evaluate the structural system designs and materials used in institutional buildings, including their impact on the overall building performance and functionality in a technical sense.
CO2	Design advanced slabs and lightweight skin systems for RCC and MS framed buildings, incorporating sustainable and efficient strategies.
CO3	Understand comprehensive details for institutional building elements such as cores, fenestrations, cladding, and curtain wall systems, considering both functional and aesthetic aspects.
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional and the ability to empathetically communicate with all stakeholders.

Rubrics:

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
THIRD YEAR - SEM 5	**ABCM5**		**503**	**100**	**100**	**4**	**Multiple**		
Exercise: Title	Structural resolution of Architectural Design project from Sem 4								
Exercise Note / Task	Portfolio submission by students								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
Data Gathering/ monitoring and collating	Showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks

Representation Technique and final submission	Very well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Clear formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Very good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Fairly formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Barely managed to get clarity of intent and study using poor diagrams and sketches	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and understanding of the subject
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem ……5…

CO-PO mapping for a course of "UG program" Architectural Building Construction and Materials 4

Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Analyze and evaluate the structural system designs and materials used in institutional buildings, including their impact on the overall building performance and functionality in a technical sense.	1	0	0	1	0	2	3	0
CO2	Design advanced slabs and lightweight skin systems for RCC and MS framed buildings, incorporating sustainable and efficient strategies.	2	3	3	0	0	0	2	0
CO3	Understand comprehensive details for institutional building elements such as cores, fenestrations, cladding, and curtain wall systems, considering both functional and aesthetic aspects.	2	3	3	0	0	0	2	0
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional and the ability to empathetically communicate with all stakeholders.	3	1	2	3	3	2	1	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 504						
	COURSE NAME	THEORY AND DESIGN OF STRUCTURES V	SEMESTER	Five	CREDITS	3
	FACULTY	KUMARGURU, BHARGAV, NEERAJ	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 marks
	TIME	9.40 TO 11.20 AM	TEACHING HOURS	1.66HR	TIME REQUIRED OUTSIDE OF CLASS	NIL

UNIVERSITY COURSE DESCRIPTION	Design of Steel Structures
PEDAGOGIC INTENT	The course shall create the necessary skills for design of simple steel structures,understanding of relevant ISI code requirements,comparative understanding of member sizes in steel structures in relation to structures constructed using other materials.The course also intend to develope comparative understanding of different structural systems in steel for the given design program.
METHODOLOGY	Giving inputs in the form of lectures,powerpoint presentations,screenings to enable the students to understand the concepts,design procedures etc.Making the students to work on assignments based on the concepts discuss in the class.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1,2	Saturday	8th June &15th June 2019	Properties of steel	10	Assignment 1
	Saturday		Properties of steel sections	10	Assignment 2
week 3,4	Saturday	22nd & 29th June 2019	Tension Members	10	Assignment 3
week 5,6	Saturday		Analysis of Tension Members	10	Assignment 4
	Saturday	6th & 13th July 2019	Monsoon workshops		
week 7,8	Saturday		Design of Tension Members	10	Assignment 5
	Saturday	20th and 27th July 2019	Analysis of Rolled Steel Beams and Built up Beams	10	Assignment 6
week 9,10	Saturday		Design Rolled Steel Beams and Built up Beams	10	
	Saturday	3rd and 10th August 2019	Analysis and design of simple compression members,Analysis of Built up compression members	10	Assignment 7
week 11,12	Saturday	17th and 24th Augsut 2019	Design of Slab base and study of gusseted base	10	Assignment 8
	Saturday		holiday		
week 13,14	Saturday	14th sept 2019	holiday		
	Saturday		Analysis and design of Rivetted connections,Analysis and design of welded connections	10	Assignment 9
week 15,16	Saturday	21st & 28th sept 2019	Structural systems in steel for high rise building	10	
	Saturday		Design of lattice girders and trusses	10	Assignment 10

EVALUATION CRITERIA	Performance of the students in the assignments given in the classwork and the final exam.
LEARNING OUTCOMES	The students will be versed with potential of steel structures and the basic procedures for design of steel structures,so that they will be in better position to have an effective dialogue with structural engineers and contractors in their professional life.
READING LIST	Analysis,Behaviour and Design of Steel Structures by Dr.Subramanium,literature published on steel structure by INSDAG

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Theory and Design of Structures 5*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Theory and Design of Structures 5
Course Code: BARC 504

Sem 5

Name - 3rd Year

Course Objectives:

- To develop a sound understanding of the principles of structural steel design with emphasis on design at the member level using a fusion of theoretical concepts and practical design examples.
- To encourage and enable students to use steel members and systems in their design projects.

Course Outcomes (CO):

Course Outcome (CO)	Description
CO1	Introduction to steel as a structural material, its inherent properties, advantages, and shortcomings.
CO2	Develop an intuitive understanding of the flow of loads in a steel structure and the nature of stresses in various members.
CO3	Understand the behavior of typical members in a steel structure and work out their preliminary sizes, fundamentals of connection design
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
THIRD YEAR - SEM 5	**Theory and Design of Structures 5**	**BARC 504**	**BARC 504**	**50**	**50**	**3**			
Exercise: Title	Steel as a structural material								
Exercise Note / Task	Assignment + Test								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Data Gathering/ monitoring and collating	All data to be collected from reliable sources with references included in the reports. Exceptional in showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected.	All data to be collected from reliable sources with references included in the reports. Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with most references included in the reports. Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks
Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
In-depth understanding a theory and its application in the architectural field	Exceptional analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Very well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Excellent curation using outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation.	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
Representation Technique and final submission	Very well formatted presentation explaining	Well formatted presentation explaining	Clear formatted presentation explaining	Very good formatted presentation explaining	Good formatted presentation explaining	Fairly formatted presentation explaining	Barely managed to get clarity of intent and	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and

	concepts, process adopted using various tools and techniques	concepts, process adopted using various tools and techniques	concepts, process adopted using various tools and techniques	concepts, process adopted using various tools and techniques	concepts, process adopted using various tools and techniques	concepts, process adopted using various tools and techniques	study using poor diagrams and sketches		understanding of the subject
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

CO-PO mapping for a course on “Theory and Design of Structures 5”									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Introduction to steel as a structural material, its inherent properties, advantages, and shortcomings.	1	1	3	1	0	3	2	3
CO2	Develop an intuitive understanding of the flow of loads in a steel structure and the nature of stresses in various members.	3	3	1	3	1	1	2	2
CO 3	Understand the behavior of typical members in a steel structure and work out their preliminary sizes, fundamentals of connection design	2	2	1	2	0	0	2	0
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional.	3	2	1	3	3	1	2	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 505	COURSE NAME	HUMANITIES	SEMESTER	Sem V	CREDITS	4
	FACULTY	JIMMY,MINAL, NISHA, SANAEYA	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	-
	TIME	11:50-12:50 ; 1:20 - 3:00	TEACHING HOURS	2.30 hrs a week	TIME REQUIRED OUTSIDE OF CLASS	3 hrs

what

UNIVERSITY COURSE DESCRIPTION	Develop reading, research and reflective writing skills with an emphasis on creating a narative along with stress on refrencing and citations.

why

PEDAGOGIC INTENT	The intent for this course is to develop skills amongst students with regards to reading their city through artefacts and their related communities. It also aims to develop their sense of articulation and research and surveying techniques in order to build up for later research works that they would undertake.

how

METHODOLOGY	The course shall comprise of lectures, readings and interactive sessions with students to help them identify associative values of historical artefacts. A tool, that can be very useful in determining systems in communities and the way in which city-wide networks and local institutions work. This shall be supported by a research paper across the semester, where the students are expected to identify 'places' and conduct in depth surveys and studies to develop a narrative to re-assign values of such 'places' for the city.

when

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1,2	Tuesday	11-Jun-19	Introduction to the Course		Introduction to Mumbai
	Tuesday	18-Jun-19	Reading: Socio Cultural history of Mumbai		Identify the anchor and the artefact
week 3,4	Tuesday	2-Jul-19	o to posing the question for the synopsis/ abst		Discussions
	Tuesday	9-Jul-19	Reading: Political economy, land and development	10	**Discussion on Photomontage**
week 5,6	Tuesday	16-Jul-19	Readings: Migration		Film Screening
	Tuesday	23-Jul-19	**Assessment Synopsis/ Abstract**	10	**Assessment Synopsis/ Abstract**
week 7,8	Tuesday	30-Jul-19	Strengthening the Arguments		strengthening Arguments
	Tuesday	6-Aug-19	**Assessment of 1st draft**	10	**Assessment of 1st Draft**
week 9,10	Tuesday	13-Aug-19	Strengthening the Arguments		strengthening Arguments
	Tuesday	20-Aug-19	**Assessment 2nd draft**	10	**Assessment 2nd draft**
week 11,12	Tuesday	27-Aug-19	Strengthening the Arguments		strengthening Arguments
	Tuesday	3-Sep-19	**Final submission**	10	**Final Assessment**
week 13,14	Tuesday	10-Sep-19	ondonation List and discussions with defaulter		Discussion with defaulters
	Tuesday	17-Sep-19	**Final condonation submission**		**Condonation assessment and evaluation**

EVALUATION CRITERIA	Evaluation shall totally be based upon the efforts of the students and the quality of their writings & photomontages. Major marking shall be concentrated around the narrative , arguments and authenticity of the written material. Percentage wise division is as follows - 10% for synopsis , 10% for montages , 10%
LEARNING OUTCOMES	(1) Understanding the socio-economic context of the city (2) Acquaintence with the literature on the city (3) Understanding the city through its various instituitions and processesThe course aids in understanding local histories, associative values of communities & strengthens the skills of the students. It also

READING LIST

Amar Farooqui "Urban Development in Early Victorian Bombay" in *Opium City: The Making of Early Victorian Bombay* . Three Essays Collective. 2006

Swapna Banerjee-Guha "Urban Development Process in Bombay: Planning for Whom?" from Sujata Patel, and Alice Thorner,. *Bombay: Metaphor for Modern*

Gangar, Amrit. "Films from the City of Dreams." In *Bombay: Mosaic of Modern Culture,* edited by Sujata Patel and Alice Thorner. Oxford University Press, USA

Shahani, Roshan. "Polyphonus Voices in the City : Bombay's Indian-English Fiction." In *Bombay: Mosaic of Modern Culture,* edited by Sujata Patel and Alice Th

Punwani, Jyoti. "'My Area Your Area': How Riots Changed the City." In *Bombay and Mumbai: The City in Transition,* edited by Sujata Patel and Jim Masselos. C

Sandeep Pendse, "Toil Sweat and the City" from Sujata Patel, and Alice Thorner,. *Bombay: Metaphor for Modern India.* Oxford University Press, USA. 199

Jayant Lele, "Saffronisation of Shiv Sena-Political Economy of City, State and Nation." *Economic and Political Weekly,* 1995

Nijman, Jan. "Mumbai's Mysterious Middle Class." *International Journal of Urban & Regional Research* 30, no. 4 (December 2006): 758–75. doi:10.1111/j.146

Manuel Castells and Alejandro Portes, "World Underneath: The Origins, Dynamics, and Effects of the Informal Economy" from Portes, Alejandro, Manuel Caste

Mahadevia, Darshini, and Harini Narayanan. "Shanghaing Mumbai: Politics of Evictions and Resistance in Slum Settlements." *In Inside the Transforming Urban*

CO-PO mapped syllabi of B.Arch Course 2019-20 – HUMANITIES (History) SEM 5

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one shouldacquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate andmeet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete).
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course:
Humanities (History)
Course Code: BARC505
Sem 5

Course Objectives:

1. To analyze the social production of space, with a special focus on its political and contested nature.
2. To understand the contradictions, conflicts, and struggles over the determination of its urban form and use
3. To introduce students to housing institutions, policy and practice in Mumbai historically

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Students will adopt the 'production of space' as an analytical tool to study urban phenomena
CO2	Students will identify the various contradictory forces in the determination of urban form and use
CO3	Students will examine the policy and practice of housing in Mumbai historically

Year of Assessment: 2019 - 2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 : Marks out of**	**Credits**	**Date of submission**		
SECOND YEAR - SEM 3	**Hum**	**BARC505**		**50**	**50**				
Exercise: Title	Class case study presenations								
Exercise Note / Task	Present a case-study in groups in an audio-visual format								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
(A) Interpretation of Case Study	Excellent understanding of the case, ability to identify the determinants and explain them lucidly, is able to connect the case to contemporary examples	Very good understanding of the case, ability to identify the determinants and explain them well, is able to connect the case to contemporary examples	good understanding of the case, ability to identify the determinants and explain them competently	good understanding of the case, ability to identify the determinants and explain them adequately	A fair understanding of the case, ability to identify the determinants and explain them adequately	A fair understanding of the case, ability to identify the determinants	An minmal understanding of the case, somewhat able to identify determinants	An minmal understanding of the case,	Little or no understading of the case
(B) Presentation Quality as a whole	Outstanding organization of the presentation, exceptionally clear presentation combined with creative use of visual aids	Exceptionally well structured, exceptionally clear presentation combined with creative use of visual aids	Well structured, exceptionally clear presentation combined with good use of visual aids	Very Clear presentation, combined with good use of visual aids	Well organized presentation, combined with competent use of visual aids	Manage to convey the ideas adequately	Some difficulty in expressing ideas, acceptable	Difficulty in explaining	poorly constructed and unable to convey ideas
(C) Participation and conduct in class	90% attendence or more, active participation in class and excellent conduct overall	90% attendence or more, good participation in class and very good conduct overall	80% - 90% attendence, active participation in class and excellent conduct overall	80% - 90% attendence, good participation in class and very good conduct overall	70% -80% attendence, active participation in class and excellent conduct overall	70% -80% attendence, good participation in class and very good conduct overall	50% - 70% attendence	50% - 70% attendence	50% attendence or less

CO-PO mapping Humanities Sem 1									
Sr. No.	**CO description**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	Students will adopt the 'production of space' as an analytical tool to study urban phenomena	**3**	**2**	**1**	**2**	**2**	**3**	**3**	**0**
CO2	Students will identify the various contradictory forces in the determination of urban form and use	**3**	**1**	**0**	**3**	**2**	**2**	**3**	**0**
CO3	Students will examine the policy and practice of housing in Mumbai historically	**2**	**1**	**0**	**3**	**2**	**3**	**3**	**1**

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 507					
COURSE NAME	ARCHITECTURAL REPRESENTATION & DETAILING V	SEMESTER	V	CREDITS	4
FACULTY	AINSELY, JIMMY, MINAL, NEMISH, MIHIR, DURVESH, DYANESH	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	ONLY SESSIONALS
TIME	8 AM TO 11.20 AM,	TEACHING HOURS	3.20 HRS	TIME REQUIRED OUTSIDE OF	EVERY WEEK 6 HRS

UNIVERSITY COURSE DESCRIPTION	INTRODUCTION TO WORKING DRAWINGS AND TENDER DOCUMENT, BUILDING MATERIAL SPECIFICATION AND BILL OF QUANTITIES FOR LOAD BEARING AND FRAMED STRUCTURES
PEDAGOGIC INTENT	THE SUBJECT IS AN ATTEMPT TO BRING ABOUT A DETAILED RESOLUTION OF DESIGN THROUGH TECHNICAL REPRESENTATION OF ACQUIRED KNOWLEDGE OF CONSTRUCTION, SERVICES,BUILDING MATERIAL AND COMPUTING THEREBY LEADING TO PREPARATION OF A FINE SET OF WORKING DRAWINGS AND A TENDER DOCUMENT, VERY RELEVANT FOR GOOD PRACTICE
TEACHING METHODS	[illegible] PREPARING OF WORKING DRAWINGS WHILE THE OTHER SHALL FOCUS ON MATERIAL SPECIFICATION AND BILL OF QUANTITIES USUALLY FOLLOWED BY AN INTERACTION WITH RESPECTIVE FACULTY WHO HAVE BEEN GUIDING THEM RESOLVE THEIR PROJECTS AND HAVE ASSESSED THEIR ASSIGNMENTS.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1,2	Monday	10-Jun-19	INTRODUCTION TO THE SUBJ, LOCATION & SITE, EXCAVATION		INTRO TO DESIGN DEVELOPMENT
	Monday	17-Jun-19	CENTRE LINE, FOUNDATION AND PCC WORKS / DESIGN REVIEW		DESIGN DEV OF OPENINGS+ STAIRCASE
week 3,4	Monday	24-Jun-19	**DESIGN DEV ASSESSMENT/ STRUCTURE RESOLUTION**	**20 + 10**	**ASS. 1: EXCAVATION & SHORING**
	Monday	01-Jul-19	PLINTH WORKS/RESOLUTION OF DESIGN, STRU, CENTRE LINE		
week 5,6	Monday	08-Jul-19	**ASSESSMENT LOCATION,CENTRE LINE, FOUNDATION, PLINTH**	**20 +10**	**ASS. 2 : PLINTH WORKS**
	Monday	15-Jul-19	SUPERSTRUCTURE: RCC & BRICKWK PLASTER/ PLANS LECTURE		INTRO TO ASS 3: SUPER STRUCTURE
week 7,8	Monday	22-Jul-19	SUPERSTRUCTURE: RCC & BRICKWK PLASTER/ PLANS REVIEW	**10 +10**	**SLABS, BRKWRK PLASTER**
	Monday	29-Jul-19	**ASSESS PLANS/ INTRO TO SYSTEMIC IDEA OF STR/ SERVICES**	**20**	**MID TERM MARKING COMPILATION**
week 9,10	Monday	05-Aug-19	WORKING SYSTEMIC IDEA OF STRUCTURE ETC.		
	Monday	12-Aug-19	**ASSESSMENT SYSTEMIC IDEA OF STRUCTURE ETC.**	**10 +10**	**ASS. 4 : FLOORING CLADDING FINISHES**
week 11,12	Monday	19-Aug-19	SURFACE,WOOD FINISHES/ SECTION ELEVATIONS REVIEW	**10**	**ASS. 5: DOORS WINDOWS**
	Monday	26-Aug-19	ELECTRICAL LIGHTING/ **SECTION ELEVS. REVIEW**	**10**	**ASS. 6: COLOUR POLISH FINISHES**
week 13,14	Monday	02-Sep-19	**HOLIDAY**		
	Monday	09-Sep-19	**ASSESSMENT SECTIONS ELEVATIONS**	**20**	
week 15,16	Monday	16-Sep-19	**TENDER DOCUMENT LECTURE/PORTFOLIO SWAP**	**30 + 10**	**ASS 7 : COMPILED TENDER DOCUMENT**
	Monday	23-Sep-19	**CONDONATION REVIEW/ PORTFOLIO SUBMISSION**		**FINAL COMPILATION OF MARKS**

EVALUATION CRITERIA	A STUDENTS ASSESSMENT SHALL BE DONE ON THE BASIS OF TWO SET OF DELIVERABLES- 3 SET OF BASIC WORKING DRGS (100 MARKS) AND 5 ASSIGNMENT OF COMPUTING BILL OF QUANTITIES (100 MARKS) WITH QUOTING OF RELEVANT BUILDING MATERIAL SPECIFICATION USED IN THE DETAILING OF THEIR PROJECTS.
LEARNING OUTCOMES	A STUDENT SHOULD BE ABLE TO RESOLVE HIS PROJECT THROUGH A SET OF WELL REPRESENTED WORKING DRAWINGS AND BILL OF QUANTITIES BASED ON THE TECHNICAL KNOWLEDGE IMPARTED TO HIM OVER THE LAST TWO YEARS.

CO-PO mapped syllabi of B. Arch Course 19-20 – Architectural Representation and detailing 5

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpret learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorize and conceptualize ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive ways of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic

systems (Technical / Social)

7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Representation and detailing 5

Course Code: BARC 507 Sem 5 Third Year

Course Objectives:

The studio looks to blur the lines of *design and making* as two separate modes of knowledge and set up a space for students to have an analytical, questioning attitude towards all aspects of technology. This also encompasses the idea that a student is able to choose correct technology and materials to support it. The subject is an attempt to bring about a detailed resolution of design through technical representation of acquired knowledge of construction, services, building material and computing thereby leading to preparation of a fine set of working drawings and a tender document, very relevant for good practice. Every class shall consist of a lecture of 40 minutes each, one explaining techniques/ criteria/ detailing for preparing of working drawings while the other shall focus on material specification and bill of quantities usually followed by an interaction with respective faculty who have been guiding them to resolve their projects and have assessed their assignments.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Students are enabled to develop and resolve without compromising their design ideas to match the program requirements and operations.
CO2	Students are enabled to choose the correct system from the wide array of structural, infrastructural, envelope systems along with the appropriate construction material and technique to arrive at a design idea.
CO3	To be able to understand material behavioral properties and be able to take informed design decisions based on theoretical knowledge learnt
CO4	To be able to create a detailed portfolio showcasing all design attributes and detailing for execution purposes

Rubrics:

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
3rd yr. 5th Sem	ARD		BARC 507	100		4	Multiple		
Exercise: Title	Working drawings and BOQ report								
Exercise Note / Task	To prepare a basic set of working drawings with BOQ report								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Choice and integration of various systems such as structural, envelope, materials and services adopted in context of the site and program.	Innovative & outstanding well-developed systems that integrate with program & context and spatial planning with extremely good detailing.	Outstanding developed systems that integrate with program, context and spatial planning with extremely good detailing	Excellent well-developed systems that integrate with program, context and spatial planning with extremely good detailing	Extremely well-developed systems that integrates with program, context and spatial planning with extremely good detailing	Very Well-developed systems that integrates with program, context and spatial planning with extremely good detailing	Good developed systems that integrate with program, context and spatial planning with extremely good detailing	Fairly good developed systems that integrates with program, context and spatial planning with extremely good detailing	Manages to develop systems that integrates with program, context	Absolutely no clarity of systems, or non-submission
Representation Technique and final submission	Very well formatted presentation of working drawings complete with details and BOQ report	Well formatted presentation of working drawings complete with details and BOQ report	Clear formatted presentation working drawings complete with details and BOQ repot	Very good formatted presentation of working drawings complete with details and BOQ report	Good formatted presentation of working drawings with some details and BOQ report	Fairly formatted presentation of working drawings with incomplete details and BOQ report	Barely managed to get working drawings complete with no details and BOQ report	Incomplete set of working drawings BOQ report	Absolutely no clarity of thought and understanding of the applied subjects
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

COPO Mapping

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Students are enabled to develop and resolve without compromising their design ideas to match the program requirements and operations.	2	1	2	2	2	1	3	2
CO2	Students are enabled to choose the correct system from the wide array of structural, infrastructural, envelope systems along with the appropriate construction material and technique to arrive at a design idea.	2	2	2	0	0	1	3	2
CO3	To be able to understand material behavioral properties and be able to take informed design decisions based on theoretical knowledge learnt	1	2	0	2	2	2	3	2
CO4	To be able to create a detailed portfolio showcasing all design attributes and detailing for execution purposes	0	0	0	0	0	2	2	2

BARC 508	**COURSE NAME**	Architectural Building Services 4	**SEMESTER**	5th SEM	**CREDITS**	3
	FACULTY	Minal, Kimaya, Jimmy, Durvesh, Sonali, Sajana	**SESSIONAL MARKS**	50	**SCHEME OF EXAMINATION**	Theory - 50 marks
	TIME	Thursday (12.00 - 3.00)	**TEACHING HOURS**	12 hours	**TIME REQUIRED OUTSIDE OF CLASS**	5 Hours/week

what	**COURSE DESCRIPTION**	Terminology in acoustics – Factors influencing hearing conditions. • Sound in spaces, between spaces, effect of opening and surfaces. • Criteria for acoustics environment riteria for reverberation in spaces. Reverberation time. • Background noise, structure borne sound. • Sound absorption, acoustical materials. • Sound isolation for equipments. • Acoustics for auditoriums and lecture halls. • Design for good hearing, loudness and distributing, reflection and diffusion of sound. • Various sound amplifying systems. General distribution of electric power in towns and cities. • Electrical wiring system – different materials employed and methods of wiring. • Different electrical gadgets and fittings. • Switch board, distribution board, mains, fuse, meter, circuit breaker etc. • Single phase and Three phase distribution and circuits. • Basic electrical layout for a residence. • Earthing for electricity appliances. • Electrical installations for services such as air-conditioning systems, lifts, escalators, pumps etc. • Artificial lighting , design principles, illumination levels. • Types of lamps and fittings used. • Application of lighting system for shops, showrooms, offices, lecture halls, class rooms, stage, auditoriums etc.
why	**PEDAGOGIC INTENT**	The course aims to foster an understanding of visual and acoustical comfort parameters and integrate them intuitively into the design process. Lighting design focuses on comfort, ambience, safety, and energy efficiency, while acoustical comfort becomes crucial in specialized buildings. The course covers aspects ranging from acoustical material selection and application to building layout, shape, size, volume, structure, inter-relationships of spaces, and the integration of various services required for managing buildings like auditoriums, recording studios, conference rooms, and audio-visual rooms.
how	**METHODOLOGY**	Experimental Learning with discussions and problem solving to understand the basics of structural systems.

when

SCHEDULE	**DAY**	**DATE**	**TEACHING CONTENT OF THE DAY**	**MARKING DISTRIBUTION**	**ASSIGNMENT / DELIVERABLE**
Week 1	Thursday	13-Jun-19	Introduction to the course - syllabus discussion. Discussion of present AD site and a lecture on SWOT analysis and all its aspect - site surround and its impact, climate, locale, landuse, infrastructure etc		Introduction of the 1st assignment - documenting the basic infrastructure of AD sites
Week 2	Thursday	20-Jun-19	**Studio - Documentation and Submission**	10%	
Week 3	Thursday	27-Jun-19	Acoustics - History of Auditoriums , design criteias, site considerations, terms and terminology, theory of acoustics, etc		
Week 4	Thursday	04-Jul-19	Acoustics - Reverberation, calculation,theory of acoustics, defects in auditorium and elimination strategies, material used and their installation + Studio - Documentation and Submission		
Week 5	Thursday	11-Jul-19	Acoustics continue and studio		
Week 6	Thursday	18-Jul-19	Acoustics case presentation		
Week 7	Thursday	25-Jul-19	Acoustics case presentation + Lecture on electricity	10%	
Week 8	Thursday		Electricity lecture + studio		
Week 9	Thursday	08-Aug-19	Lighting Lecture + Studio		
Week 10	Thursday	15-Aug-19	**HOLIDAY**		
Week 10	Thursday	22-Aug-19	**Electricity Submission**	10%	
Week 11	Thursday	29-Aug-19	A brief lecture on Public Toilet (Design revision) with emphasis on actual constructional drawings of toilet and all the details - site planning, design development, structure, plumbing, specificaton, D/W details, tiling etc + Studio		
Week 12	Thursday	05-Sep-19	Studio on PT - design development that includes - number of fixtures required, structure resolution, tank positions.		
Week 13	Thursday	12-Sep-19	PT Studio		
Week 14	Thursday	19-Sep-19	**PT Submission**	20%	
Week 15	Thursday	26-Sep-19			
Week 16	Thursday	03-Oct-19			

LEARNING OUTCOMES	The criteria for evaluation is basic understanding of services as an integral part of arcitecture and their importance for achieving not only basic comfort for human habitation but as a design strategy. Assignments are to evaluate this understanding in their application.
EVALUATION CRITERIA	1) The intent is to help students to understand the importance of Daylight and orientation and when and how to enhance the ambience of any space with artificial lighting. 2) Energy used in these applications and the methods to minimize energy expenditure by way of architectural strategies and using correct lights and luminaires 3) Electrical distribution,locations and spaces required for clean and maintenance easy Installtion but also the safety of the building and people 4) Representational Drawing for electrical and lighting layout 5) Acoustics for different buildings - preparing drawings and presentation of case studies.
READING LIST	B 3095 - Acoustics in the Built Environment, B 3034 -Architectural Acoustics:principles and practice, B 2478 -Acoustical Designing in Architecture, B 1542 -Noise Control in the Built Environment, B 7 - Architectural Acoustics, B 20 -Detailing for Acoustics, B 1837 -Light:the shape of space:designing with space and light, B 39 -Architectural Lighting Design, B 1298 -Architectural Lighting Design, B 1289 - Design of Electrical Services for Buildings, B 2665 -Design of Electrical Services for Buidings, B 4539 -Electricity, B 1649 - Electrical System for Architects.

CO-PO mapped syllabi of B. Arch Course 19-20 – Architectural Building Services 3

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic

systems (Technical / Social)

7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Services 3

Course Code: BARC 508 Sem 5 Third Year

Course Objectives:

The Architectural Building Services course in this semester intends to develop technical and scientific know-how of a building by introducing the active infrastructure systems to make a building efficient, comfortable, convenient from the visual and acoustic aspect.

Taking cues from renewability and regenerative concept, this course introduces to energy efficient building systems and components.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To enable students to understand the lighting and acoustic components and workability within a building, with a focus on holistic understanding of materiality, technical details and layout.
CO2	To make the students explore the various techniques of representing the building systems and components, to be executed on their architectural projects and site.
CO3	To analytically arrive at building energy-efficiency by applying alternative and renewable energy sources as well as regenerative systems.

Rubrics

Year of Assessment: 19-20	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
THIRD YEAR	**Subject: Architectural Building Services**	**Subject Code**	**University subject code**	**Sessional Marks:**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgarde 01**	**Upgrade 02**
5 SEM			**BARC 508**	**50**		**3**			
Exercise: Title	Basic Working drawing set, electrical layout								
Exercise Note / Task	Resolution and preparing a set of working drawings for their architectural design project.								

Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Understanding of systems and their integration with other systems as well as with space	1)Complete understanding of systems 2) its integration with other system 3) its hierarchy in planned space	1)Very good understanding of systems 2) its integration with other and its position in planned space.	Good understanding of systems and its integration and its position in planned space.	Fairly good understanding of systems and its integration and its position in planned space.	1)Understanding of system is seen along with other systems 2) lacking spatial integration.	1)Lesser understanding of system is seen along with other systems 2) lacking spatial integration.	1)Poor understanding of system. 2)No understanding of integration with other systems.	Extremely poor understanding of system.	Non-Submission
Representation Technique and final submission	Logical and semantic representation	Logical representation	Good representation in all aspect	Good representation in all aspect	Fairly represented in all aspect	The drawings could be understood	Representation needed clarification	Drawings not clear enough	Non-Submission
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

COPO Mapping

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To enable students to understand the lighting and acoustic components and workability within a building, with a focus on holistic understanding of materiality, technical details and layout.	2	2	0	2	2	1	2	2
CO2	To make the students explore the various techniques of representing the building systems and components, to be executed on their architectural projects and site.	2	1	1	1	1	2	2	2
CO3	To analytically arrive at building energy-efficiency by applying alternative and renewable energy sources as well as regenerative systems.	1	2	2	1	2	1	2	2

BARC 509						
	COURSE NAME	Architectural Theory 3	SEMESTER	5TH SEM	CREDITS	2
	FACULTY	Rohan Shivkumar, Shirish Joshi	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Sessionals
	TIME	Friday, 1.20-3.00	TEACHING HOURS	100	TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	
PEDAGOGIC INTENT	*The Theory of Design module will be an introductory course to some of the concerns of architecture as cultural practitioners over the past century. The work of architects will be seen with respect to the issues that concerned them, the contexts where they were working and the methods and tools that they employed. The attempt will be to unpack some of these in the 'canonical' individuals and works of the past century, but draw them out to the larger concerns of us working here today in modern India.* *As these concerns often transcend disciplinary boundaries, there will be diversions into the world of art and cinema. Although there will be an attempt at describing a cross-disciplinary space, the emphasis is clearly architectural in the choices of the practices chosen to discuss. Although the course follows a loose chronology beginning with the early modernists and arrives at current concerns towards the end of the year, the emphasis is on the concerns of the practice and does not attempt to draw a history of architecture.* *Within the course there is an attempt to challenge the idea that practice and thought are separable - that there can be theory that has no concrete relevance; or that there can be practice that exists outside of thought. The course also looks beyond the tropes of 'styles' that has plagued the writing of architectural theory to investigate ontological foundations of different approaches to architecture. These involve exploring the relationship between form and meaning, of the body and space, of the self of the architect with the 'other', of the dialectical relationship between the analytical and the intuitive, and of the concrete object and the systems within which it exists- the social, economic and political.*
METHODOLOGY	The course will examine some of the main theoretical concerns of cultural practices in the 20th Century. Through a historical lens it will drawm parallels between the world of ideas, historical contexts, cultural practices and architecture. The course will be loosely structured as a history of 20th century architecture covering the modern and 'post-modern' moments. The course will be structured as a seminar where students will present an architect/artist/movement followed by a discussion.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Friday	14th June	Design Thesis Colloquim		
week 2	Friday	21st June	Introduction to the course		
			Why Theory - What is Theory		
week 3	Friday	28th June	Form Spae and Order		
			Diagram - Amsterdam Orphanage - Casa Delfacio		
week 4	Friday	5th July	Pattern		
			Pattern Language		
week 5	Friday	12th July	Modern		
			Nietzsche - Nostalgia for the Future		
week 6	Friday	19th July	Human		
			Aalto and Erskine		
week 7	Friday	26th July	Body		
			Bachelard- Poetics of Space		
week 8	Friday	2nd August	Freedom		
			Le Corbusier - Towards an Architecture		
week 9	Friday	9th August	Rationality		
			Bauhaus - Manifesto and other readings		
week 10	Friday	16th August	Technology		
			The constructivists		
week 11	Friday	23rd August	Speed		
			The Futurists		
week 12	Friday	30th August	Nature		
			FLW		
week 13	Friday	6th September	Abstraction		
			De Stijl		
week 14	Friday	13th September	Sublime		
			Louis Kahn		
week 15	Friday	20th September	Time		
			Japanese Aesthetics		
week 16	Friday	27th September	Myth		
			Roland Barthes		
week 17	Friday	4th October	Dream		
				50	Paper Submission
week 18					

EVALUATION CRITERIA	Students will be evaluated on their participation in the course, along with the writing assignment that they submit with respect to their unique and individual analytical abilities.
LEARNING OUTCOMES	The course aims to expose students to the way in which thought and action are related to each other. It will expose them to cultural practices and ideas from around the world, hoping that this would inspire them to seek out other references and works that will enrich their understanding of architecture as a cultural practice.
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020
Architectural Theory 3

Program Educational Objective (PEOs): B.Arch.

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4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
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POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
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4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Theory 3

Sem 5, Year 3
Course Code: 509
Course Objectives:

- The course intends to introduce students to the ideas and concepts behind and within contemporary architecture.
- It helps them to understand the relationships between spatial, temporal and intellectual contexts and architectural form.
- It exposes them to analytical frameworks and helps them develop critical thinking skills.

Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines, Ethics based etc)

Course Outcome (Co)	Description
CO1	Understanding the relationship between spatial, temporal and intellectual contexts and architectural form
CO2	Understanding readings and ideas from twentieth century thought.
CO3	Applying critical thinking skills to evolve analytical frameworks to read architecture and other cultural artefacts

Rubrics

Year of Assessment: 2019-20	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**University Subject**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
Third Year, 5 Semester	**Architectural Theory 3**	**509**	**50**	**50**	**2**	**04-10-2019**		
Exercise: Title	Critical Analysis of a cultural artefact								
Exercise Note / Task	Students will be asked to choose one cultural artefact that they have beene exposed to. They will then be asked to evolve a framework and a methodology based on some of the ideas and readings introduced to them in the class. They will then submit a short paper (between 1000-1200 words) that analyses these works.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Analysis of Artefact	Original and Intellectually challenging and relevant framework with insights into the contemporary world, Brilliant analysis of artefact, well written argument . The paper might even challenge analytical frameworks employed	Intellectually challenging understanding of framework with creative Insights and references. Insightful analysis of artefact with relevant references. Well structured argument with insightful references	Excellent understanding of analytical frame works with relevant references. Well structured argument and analysis.	Good understanding of analytical frame works with relevant references. A good analysis of the artefact within the chosen frameworks. Well structured argument.	Good understanding of analytical frame works with relevant references. A clear analysis of the object in a structured argument.	Reasonable, if not quite original analytical framework. However, understanding is clear. The argument is also fine, as is the analysis.	Average analysis of object, that might often verge on the descriptive. The argument is clear but not persuasive.	There is an engagement with the object. However, the analytical framework has been misunderstood and the argument is flawed	No submission
Presentation of Argument	Attends more than 95% of total classes	Attends more than 90% of total classes	Attends more than 85% of total classes	Attends more than 75% of total classes	Attends more than 70% of total classes	Attends more than 65% of total classes	Attends more than 60% of total classes	Attends more than 55% of total classes	Attends less than 50% of total classes

COPO Mapping Setup for Sem 5

CO-PO mapping for a course of "UG Program									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understanding the relationship between spatial, temporal and intellectual contexts and architectural form	3	0	0	2	0	2	3	1
CO2	Understanding readings and ideas from twentieth century thought.	1	0	0	2	0	1	3	0
CO3	Applying critical thinking skills to evolve analytical frameworks to read architecture and other cultural artefacts	3	0	0	2	0	2	3	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 520	COURSE NAME	COLLEGE PROJECTS 5	SEMESTER	V	CREDITS	3
	FACULTY	AINSELY, JIMMY, MINAL, NEMISH, MIHIR, DURVESH, DYANESH + RUTIKA	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	ONLY SESSIONALS
	TIME	Monday, 12-12.50, 1.20 -3.00	TEACHING HOURS	150 minutes	TIME REQUIRED OUTSIDE OF	EVERY WEEK 6 HRS

UNIVERSITY COURSE DESCRIPTION	INTRODUCTION TO WORKING DRAWINGS AND TENDER DOCUMENT, BUILDING MATERIAL SPECIFICATION AND BILL OF QUANTITIES FOR LOAD BEARING AND FRAMED STRUCTURES
PEDAGOGIC INTENT	THE SUBJECT IS AN ATTEMPT TO BRING ABOUT A DETAILED RESOLUTION OF DESIGN THROUGH TECHNICAL REPRESENTATION OF ACQUIRED KNOWLEDGE OF CONSTRUCTION, SERVICES,BUILDING MATERIAL AND COMPUTING THEREBY LEADING TO PREPARATION OF A FINE SET OF WORKING DRAWINGS AND A TENDER DOCUMENT, VERY RELEVANT FOR GOOD PRACTICE
TEACHING METHODS	EVERY CLASS SHALL COMPRISE OF TWO LECTURES OF 40 MINUTE EACH, ONE EXPALINING TECHNIQUES/ CRITERIA/ DETAILING FOR PREPARING OF WORKING DRAWINGS WHILE THE OTHER SHALL FOCUS ON MATERIAL SPECIFICATION AND BILL OF QUANTITIES USUALLY FOLLOWED BY AN INTERACTION WITH RESPECTIVE FACULTY WHO HAVE BEEN GUIDING THEM RESOLVE THEIR PROJECTS AND HAVE ASSESSED THEIR ASSIGNMENTS.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1,2	Monday	10-Jun-19	INTRODUCTION TO THE SUBJ, LOCATION & SITE, EXCAVATION		INTRO TO DESIGN DEVELOPMENT
	Monday	17-Jun-19	CENTRE LINE, FOUNDATION AND PCC WORKS / DESIGN REVIEW		DESIGN DEV OF OPENINGS+ STAIRCASE
week 3,4	Monday	24-Jun-19	**DESIGN DEV ASSESSMENT/ STRUCTURE RESOLUTION**	**20 + 10**	**ASS. 1: EXCAVATION & SHORING**
	Monday	01-Jul-19	PLINTH WORKS/RESOLUTION OF DESIGN, STRU, CENTRE LINE		
week 5,6	Monday	08-Jul-19	**ASSESSMENT LOCATION,CENTRE LINE, FOUNDATION, PLINTH**	**20 +10**	**ASS. 2 : PLINTH WORKS**
	Monday	15-Jul-19	SUPERSTRUCTURE: RCC & BRICKWK PLASTER/ PLANS LECTURE		INTRO TO ASS 3: SUPER STRUCTURE
week 7,8	Monday	22-Jul-19	SUPERSTRUCTURE: RCC & BRICKWK PLASTER/ PLANS REVIEW	**10 +10**	**ASS. 3 : COLUMN, BEAM SLABS, BRKWRK PLASTER**
	Monday	29-Jul-19	**ASSESS PLANS/ INTRO TO SYSTEMIC IDEA OF STR/ SERVICES**	**20**	**MID TERM MARKING COMPILATION**
week 9,10	Monday	05-Aug-19	WORKING SYSTEMIC IDEA OF STRUCTURE ETC.		
	Monday	12-Aug-19	**ASSESSMENT SYSTEMIC IDEA OF STRUCTURE ETC.**	**10 +10**	**ASS. 4 : FLOORING CLADDING FINISHES**
week 11,12	Monday	19-Aug-19	SURFACE,WOOD FINISHES/ SECTION ELEVATIONS REVIEW	**10**	**ASS. 5: DOORS WINDOWS**
	Monday	26-Aug-19	ELECTRICAL LIGHTING/ **SECTION ELEVS. REVIEW**	**10**	**ASS. 6: COLOUR POLISH FINISHES**
week 13,14	Monday	02-Sep-19	**HOLIDAY**		
	Monday	09-Sep-19	**ASSESSMENT SECTIONS ELEVATIONS**	**20**	
week 15,16	Monday	16-Sep-19	**TENDER DOCUMENT LECTURE/PORTFOLIO SWAP**	**30 + 10**	**ASS 7 : COMPILED TENDER DOCUMENT**
	Monday	23-Sep-19	**CONDONATION REVIEW/ PORTFOLIO SUBMISSION**		**FINAL COMPILATION OF MARKS**

EVALUATION CRITERIA	A STUDENTS ASSESSMENT SHALL BE DONE ON THE BASIS OF TWO SET OF DELIVERABLES- 3 SET OF BASIC WORKING DRGS (100 MARKS) AND 5 ASSIGNMENT OF COMPUTING BILL OF QUANTITIES (100 MARKS) WITH QUOTING OF RELEVANT BUILDING MATERIAL SPECIFICATION USED IN THE DETAILING OF THEIR PROJECTS.
LEARNING OUTCOMES	A STUDENT SHOULD BE ABLE TO RESOLVE HIS PROJECT THROUGH A SET OF WELL REPRESENTED WORKING DRAWINGS AND BILL OF QUANTITIES BASED ON THE TECHNICAL KNOWLEDGE IMPARTED TO HIM OVER THE LAST TWO YEARS.

CO-PO mapped syllabi of B. Arch Course 2019-2020 – College Projects 5

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpret learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorize and conceptualize ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive ways of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems

it is embedded in and emerges from. (Object / System)

8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: College Projects 5

Course Code: BARC 520 Sem 5 Third Year

Course Objectives:

The studio looks to blur the lines of *design and making* as two separate modes of knowledge and set up a space for students to have an analytical, questioning attitude towards all aspects of technology. This also encompasses the idea that a student is able to choose correct technology and materials to support it. The subject is an attempt to bring about a detailed resolution of design through technical representation of acquired knowledge of construction, services, building material and computing thereby leading to preparation of a fine set of working drawings and a tender document, very relevant for good practice. Every class shall consist of a lecture of 40 minutes each, one explaining techniques/ criteria/ detailing for preparing of working drawings while the other shall focus on material specification and bill of quantities usually followed by an interaction with respective faculty who have been guiding them to resolve their projects and have assessed their assignments.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Students are enabled to develop and resolve without compromising their design ideas to match the program requirements and operations.
CO2	Students are enabled to choose the correct system from the wide array of structural, infrastructural, envelope systems along with the appropriate construction material and technique to arrive at a design idea.
CO3	To be able to understand material behavioral properties and be able to take informed design decisions based on theoretical knowledge learnt
CO4	To be able to create a detailed portfolio showcasing all design attributes and detailing for execution purposes

Rubrics:

Year of Assessment : 2019 - 2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
3rd yr, 5th Sem	College Projects 5		BARC 520	100		3			
Exercise: Title	Preparing a BOQ report								
Exercise Note / Task	To prepare a BOQ report								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Choice and integration of various systems such as structural, envelope, materials and services adopted in context of the site and program.	Innovative & outstanding well developed systems that integrate with program & context and spatial planning with extremely good detailing.	Outstanding developed systems that integrates with program, context and spatial planning with extremely good detailing	Excellent well developed systems that integrates with program, context and spatial planning with extremely good detailing	Extremely well developed systems that integrates with program, context and spatial planning with extremely good detailing	Very Well developed systems that integrates with program, context and spatial planning with extremely good detailing	Good developed systems that integrates with program, context and spatial planning with extremely good detailing	Fairly good developed systems that integrates with program, context and spatial planning with extremely good detailing	Manages to develop systems that integrates with program, context	Absolutely no clarity of systems, or non-submission
Representation Technique and final submission	Very well formatted presentation of working drawings complete with details and BOQ report	Well formatted presentation of working drawings complete with details and BOQ report	Clear formatted presentation working drawings complete with details and BOQ repot	Very good formatted presentation of working drawings complete with details and BOQ report	Good formatted presentation of working drawings with some details and BOQ report	Fairly formatted presentation of working drawings with incomplete details and BOQ report	Barely managed to get working drawings complete with no details and BOQ report	Incomplete set of working drawings BOQ repor	Absolute no clarity of thought and understanding of the applied subjects
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

COPO Mapping

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Students are enabled to develop and resolve without compromising their design ideas to match the program requirements and operations.	2	1	0	0	2	1	2	2
CO2	Students are enabled to choose the correct system from the wide array of structural, infrastructural, envelope systems along with the appropriate construction material and technique to arrive at a design idea.	2	2	1	0	0	1	2	2
CO3	To be able to understand material behavioral properties and be able to take informed design decisions based on theoretical knowledge learnt	1	2	0	1	2	1	2	2
CO4	To be able to create a detailed portfolio showcasing all design attributes and detailing for execution purposes	0	0	0	0	0	1	1	2

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Semester 6

Scheme of Teaching and Examinations

Scheme of Teaching and Examinations
Bachelor of Architecture (B. Arch.)

Semester VI

	Semester VI Exam conducted by University of Mumbai	Teaching Scheme		Credits		
ub. No.	COURSES	Lecture	Studio	Theory	Studio	Total
ARC 601	Architectural Design Studio 6		8		8	8
ARC 602	Allied Design Studio 6		3		3	3
ARC 603	Architectural Building Construction 6	3	3 classes of technology studio	3	1	4
ARC 604	Theory and Design of Structures 6	2		2	1	3
ARC 608	Architectural Building Services 4	2		2	1	3
ARC 605	Humanities 6	3		3		3
ARC 607	Architectural Representation & Detailing 6		6		6	6
ARP 620	College projects 6		3		3	3
ARE 621	Elective 6		3		3	3
	Total	12	24	12	24	36

	Semester V I Exam conducted by University of Mumbai	Examination Scheme			
ub. No.	COURSES	Theory (paper)	Internal	External viva	Total
ARC 601	Architectural Design Studio 6		100	100	200
ARC 602	Allied Design Studio 6		100		100
ARC 603	Architectural Building Construction 6	50	50		100
ARC 604	Theory and Design of Structures 6	50	50		100
ARC 608	Architectural Building Services 4	50	50		100
ARC 605	Humanities 6	50	50		100
ARC 607	Architectural Representation & Detailing 6		100	100	200
ARP 620	College projects 6		100		100
ARE 621	Elective 6		100		100
	Total	200	700	200	1100

Semester 6

Semester 6

Time-Table

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
8.00 - 8.50	**WORKING DRAWING: ARCHITECTURAL REPRESENTATION AND DETAILING**		**ARCHITECTURAL DESIGN**		**ARCHITECTURAL BUILDING CONSTRUCTION**		**ALLIED DESIGN**		**ARCHITECTURAL DESIGN**		**THEORY AND DESIGN OF STRUCTURES**	
	BARC 607	*4*	*BARC 601*	*4 OF 8*	*BARC 603*	*4*	*BARC 602*	*3 + 1 EXTRA*	*BARC 601*	*4 OF 8*	*BARC 604*	*3*
8.50 - 9.40	JIMMY	AVNEESH	ROHAN	JUDE	JIMMY	AVNEESH	SANDEEP	SANNYUKTA	ROHAN	JUDE	BHARGAV	NEERAJ
	AINSLEY	MIHIR	MAYURI	SHILPA G	SHREY	DNYANESH	SHWETA	RHHEA	MAYURI	SHILPA G		
9.40 - 10.30	DURVESH	DNYANESH	**APURVA P**	SANDEEP	NEERAJ	SANDHYA	**PRACHI**	SAMIRA	**APURVA P**	SANDEEP		
	NEMISH	SANDHYA	VISHAL	RHEA					VISHAL	RHEA		
10.30 - 11.20			TA- ALAY						TA- ALAY			
11.20 - 12.00												
12.00-12.50			**ARCHITECTURE THEORY: COLLEGE PROJECT**		ENCOUNTER		**ARCHITECTURAL BUILDING SERVICES**		**HUMANITIES**			
			BARP 620	3			*BARC 608*	*3*	*BARC 605*	*3*		
12.50 - 1.20												
1.20 - 2.10	**BOQ: ARCHITECTURAL REPRESENTATION AND DETAILING**						MINAL	KIMAYA	HUSSAIN	SHWETA		
	BARC 607	2		ADVAIT			DURVESH	JIMMY				
2.10 - 3.00	KIMAYA	MINAL	ROHAN	SHIRISH			SONALI					

BARC 601	COURSE NAME	ARCHITECTURAL DESIGN	SEMESTER	SEM 5	CREDITS	8
	FACULTY	Rohan Shivkumar, Shilpa Gore Shah, Mayuri Sisodia, Apurva Parikh, Jude D'souza, Sandeep Menon, Rhea Shah, Vishal	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	100
	TIME	8.00-11.20	TEACHING HOURS	120 HOURS	TIME REQUIRED OUTSIDE OF CLASS	7h

UNIVERSITY COURSE DESCRIPTION	Course Objectives • To understand the potential of urban land and optimization of spaces • To understand architectural forms, and corresponding functions for different types of buildings. Expected Course out come Architecture for urban commercial, recreation, entertainment activities for large group of people with respect to following • Development of appropriate architectural forms, their grouping and composition, • Provision of spaces required for various activities. • Provision of spaces for required infrastructure and services
PEDAGOGIC INTENT	**Kohima** **An Archaeology of the Present** **Desire, Institutions and the Making of Identities in Kohima** **identity** To identify is to be able to discover the legible in chaos, form within formlessness, the figure against the ground. It is to be able to perceive an entity that can then be placed in a relationship with another. This process must, by its very nature, be arbitrary, as figures and grounds appear, morph and disintegrate into each other slave to the capricious desire of the observer. You only see what you desire to see. **Language** To identify, then is to exert power over the world along with the implicit presumption of the primacy of one's gaze to glean out the 'relevant' and 'irrelevant, and therefore to to be able to classify the world. Yet, these classi-fic(a)tions cannot emerge without the presence of the other - an entity that mirrors this one- one that is *like* but is also *not* this one. The signifier collects all these under the sign- the marker of identity, the origin of language. **Authenticity** An identity thus is not integral to the being of the object, but rather exists in the fickle mirror of language. Thus, any claim to an 'authentic' identity must thus be received with some amount of skepticism. However, that skepticism must not allow us to completely discard the significance of the question of identity in shaping our lives, our values systems and our relationships, for without language we descend back into chaos- without identity there is no social life, no possibility of the political. **The Self** The object whose identity is under consideration does not necessarily lie *outside* the observer. The self is also constructed through language. The world that we live in is mired in the politics of identity. Claims of the 'real' the 'true' and the 'authentic' are in a constant tussle with one another. We live in many of these purported 'truths'. Our identities are fragmented across these as they jostle for primacy, each attempting to supplant the other as the 'authentic' or the 'real'. As utopian apparitions on the other side of the mirror they call out to us to fit the template they offer. Naturally, our realties are set up for inevitable failures in that attempt. The more we try and sculpt our selves into that 'truth' they offer, the further away the image goes, opening out chasms that seem unbridgeable, if we are unable to reconcile them. Then violence, internal and to the other, is inevitable. **Performance** Each of our identities opens out its own gaps. We attempt to fill these gaps through our actions. These are vectors of desire that give meaning to our actions. Every one of our identities is embedded in a value system- what is considered good, beautiful and truthful. Every of these demands that we perform these in our everyday lives, in the histories we write and in the futures we proposition. We institute these value systems through performance. **Architecture** Architecture is an act of performance. It is a desire to better our lives, to become who we want to be (that template that presents itself on the other side of the mirror). All acts of architecture are involved in institutionalisations. They reinforce value systems by making desire concrete. These take the form of homes, schools, plazas, town halls, art galleries, mosques. **Naga Identity** The question of Naga identity looms large over the city of Kohima. Tribe, Clan, Khel, Nation, Citizen, Race. And then there are the other identities that exist- student, mother, lover, musician, farmer. Each insist on allegiances. Each insists on its own rituals. This identity is navigated in the performance of everyday life, in making of memory and in vectors of desire. Sometimes, the demands of each cannot be reconciled- and violence is seen as the only solution. Sometimes, there is hope for reconciliation. **Archaeology and the Artefact** The objects that we collect around us open out trajectories of our connections with the world, material, functional and symbolic. These trajectories make communities, structure identities. They are directed and mediated by institutions. The Third Year study trip is interested in discovering these institutions and identities through the artefacts that exist around us. The study has concentrated on the Kohima Village in the city, which owns the land upon which the city has grown. It lies just outside the Municipal limits and has its own system of governance. Any development imagined for the city of Kohima must first be discussed with Kohima Village Council. The village itself is divided into four distinct communities called 'Khels'. Each Khel has many clans within. The students will be divided across the 4 khels. They will identify objects within the homes whose trajectories they would like to follow. These objects can be historical or ritualistic artefacts, objects from the traditional crafts of Nagaland, or from the contemporary realities of the inhabitants. They shall then follow the different trajectories that emerge out of the object- its material history, its daily, weekly or annual usage, or its symbolic role. These vectors shall move outwards through institutional systems at different scales, shall study the actors and agencies (communities) involved, and the identities, memories and desires that they represent. These shall then be compiled to make a map of identities and institutions for Kohima Village. **Interfaces** The proposed Architectural Design studio in Kohima shall build upon the study of institutions and identity in Kohima Village. The project will emerge at the space (physical and programmatic) between the community and the city. It will serve as an interface where the vectors outwards from the village, and inwards from the city can be articulated. Architecture shall serve as a mediator / reconciliator / prosthetic / mask that can enable and disable these vectors.
METHOD	Course Objectives • To understand the potential of urban land and optimization of spaces • To understand architectural forms, and corresponding functions for different types of buildings. Expected Course out come Architecture for urban commercial, recreation, entertainment activities for large group of people with respect to following • Development of appropriate architectural forms, their grouping and composition, • Provision of spaces required for various activities. • Provision of spaces for required infrastructure and services

SCHEDULE		DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT /
week 1	Tuesday	19-Nov-19	Introduction		
	Friday	22-Nov-19	Programme Analysis		
week 2	Tuesday	26-Nov-19	Programme Analysis		
	Friday	29 Nov 19	*Site and Programme Analysis, Master Plan and Design Concept, Design Resolution, Representationn*		
week 3	Tuesday	3 Dec 19	Programme Analysis (Lecture on the DP)		
	Friday	6 Dec 19	Programme Analysis		
week 4	Tuesday	10 Dec 19	Programme Analysis		
	Friday	13 Dec 19	Site Analysis		
week 5	Tuesday	3 Jan 20	Site Analysis		
	Friday	7 Jan 20	Design Ideas		
week 6	Tuesday	11 Jan 20			
	Friday	14 Jan 20	Design Ideas		
week 7	Tuesday	18 Jan 20	Concept Jury	20	
	Friday	21 Jan 20	Project Evolution		
week 8	Tuesday	25 Jan 20	Project Evolution		
	Friday	28 Jan 20	Project Evolution		
week 9	Tuesday	3 Mar 20	Project Evolution		
	Friday	6 Mar 20	Project Evolution		
week 10	Tuesday	10 Mar 20	Project Evolution		
	Friday	13 Mar 20	Project Evolution		
week 11	Tuesday	17 Mar 20	Project Evolution		
	Friday	20 Mar 20	Design Development Jury	20	
week 12	Tuesday	24 Mar 20	Project Evolution		
	Friday	27 Mar 20	Project Evolution		
week 13	Tuesday	31 Mar 20			
	Friday	3 Apr 20	Project Evolution		
week 14	Tuesday	7 Apr 20	Project Evolution		
	Friday	10 Apr 20	Prefinal	20	
week 15	Tuesday	14 Apr 20	Project Evolution		
	Friday	17 Apr 20	Project Evolution		
week 16	Tuesday	20 Apr 20	Project Evolution		
	Friday	25 Apr 20	FINAL	40	

EVALUATION CRITERIA	*Site and Programme Analysis, Master Plan and Design Concept, Design Resolution, Representationn*
LEARNING OUTCOMES	• To enable students to understand programme evolution and institutional structures • To enable students to arrive upon architectural ideas that are able to address institutional mandates and urban contexts • To enable students ot evolve their own positions and processes towards the design of a building. • To enable students to resolve architectural ideas with technical resolution and details.
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020
Architectural Design

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.

4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Design **Sem: 6** **Third Year**
Course Code: BARC 601

Course Objectives:

- To enable students to understand programme evolution and institutional structures
- To enable students to arrive upon architectural ideas that are able to address institutional mandates and urban contexts
- To enable students ot evolve their own positions and processes towards the design of a building.
- To enable students to resolve architectural ideas with technical resolution and details.
- To be able to present and communicate their projects successfully.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understand and evaluate institutional systems and architecture at strengthening and safeguarding the interests of the collective
CO2	Analyse and Apply critical thinking to the design of institutions in a particular context and their architecture
CO3	Create one's own process for the development of the design.
CO4	Create programmatic and spatial strategies for the design of an institutional building that incorporates technical knowledge learned in other courses
CO5	Create and present a well resolved design project

Year of Assessment :	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject: Technical Studio**	**University Subject Code**		**Sessional Marks: 100**	**External Marks**	**Credits**	**Date of submission**		
3 Year, 6 Semester	**Architectural Design**	**BARC 601**		**100**	**100**	**8**	**25 April 2020**		
Exercise: Title	Kohima: An Archaeology of the Present								
Exercise Note / Task	Final Jury with sheets, models and presentation								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Attendance and participation in the studio	95% to 100% attendance and extremely participative alongwith taking complete responsibility of the studio assignments	90% to 95% attendance and visibly very participative alongwith sharing responsibilities of studio assignments	85% to 90% attendance and visibly participative alongwith sharing responsibilities of studio assignments	75% to 85% attendance and participative alongwith sharing responsibilities of studio assignments	70% to 75% attendance and participative alongwith sharing responsibilities of studio assignments only when asked	65% to 70% attendance and less participative alongwith sharing responsibilities of studio assignments only when asked	55% to 65% attendance and participative in the studio only when asked	50% to 55% attendance and not participative in the studio	Below 50% attendance and mostly absent in the studio
Proactiveness while on the study trip / site visit and pitching in completing the study post the visit.	Extremely active at organizing group work and preparing supreme quality drawings	Moderately extreme active at organizing group work and preparing supreme quality drawings	Less moderately extreme active at organizing group work and preparing supreme quality drawings	Highly moderately active at organizing group work and preparing supreme quality drawings	Just active at organizing group work and preparing moderate quality drawings	Seldom activeness at organizing group work and preparing satisfactory quality drawings	Not organizing group work and preparing satisfactory quality drawings	No active participation in class	Disinterested
Contextualization of the design concept and resolution of building	Par excellence accuracy and at contextualization of the design intent along with exceptional understanding of structure and services	Outstanding performance at contextualization of the design intent with excellent understanding of technology subjects	Greater excellence at contextualization of the design intent, with skilled design prowess including understanding of technnocsal subjects	Excellence of contextualization of the design intent, align with interesting design choices and resolution	Very good accuracy at contextualization of the design intent building design and resolution skills	Good contextualization of the design intent, along with good building design and resolution skills	Fair contextualization of the design intent, average building design and resolution skills	Satisfactory contextualization of the design intent, with average building design and resolution skills	Below average contextualization and understanding of the design intent, and below average design skills and technical understanding.

COPO Mapping Setup for Sem 5

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	Understand and evaluate institutional systems and architecture at strengthening and safeguarding the interests of the collective	3	0	0	2	3	0	3	0
CO2	Analyse and Apply critical thinking to the design of institutions in a particular context and their architecture	2	2	2	2	0	1	3	0
CO3	Create one's own process for the development of the design.	0	3	3	0	0	2	1	0
CO4	Create programmatic and spatial strategies for the design of an institutional building that incorporates technical knowledge learned in other	0	3	3	0	0	1	2	0
CO5	Create and present a well resolved design project	0	2	1	0	2	0	0	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 602						
	COURSE NAME	Allied Design - Landscape Architecture	SEMESTER	Six	CREDITS	3+1 (extra)
	FACULTY	Sandeep, Sanyukta, Shweta,Rhea,Prachi, Samira	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Internal
	TIME	8:00 am - 11:20 am	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	0

COURSE DESCRIPTION	Landscape Architecture
PEDAGOGIC INTENT	Inculcate a thorough understanding of **landscape programmatic development, open space planning and landscape design development** in the students. Emphasis to be given to the attitude of enquiry and site explorations. Encourage the students to explore '**Landscape Projects and Practices'** as part of a series of students presentation and discussion in
METHODOLOGY	The course will be conducted in conjunction to the Architectural Design Studio project in the hilly terrains of the city of Kohima, Nagaland. The students have measured and experienced the sites in person. The initial part of the studio shall focus on analysising the sites and identifying the potential opportunities /challenges +constraints the site offers with respect to its topography, hydrological characteristics,existing vegetation, context etc and allied natural processes and systems. The outcomes of the analysis will help in informing suitability in buildable zones, possible footprint extents of the proposed building and possible openspace programming and zoning of the project. The second part of the studio is structured to assist the students develop detailed openspace design programmes and landscape design possibilities. The students will be assigned guides (just as in the Architectural Design Studio) for efficient and effective discussions. There will be special lectures in the initial weeks of the process to refresh the students' understanding of site analysis. The last thirty minutes of the class will be dedicated for a 'weekly presentation' by groups of students (nine groups in total) regarding various topics covered under the purview of landscape architecture. A list of possible topics will be shared with the students and groups formed. Each group discusses with the faculty members regarding the progress of their research in the antepenultimate(last but two) and further in the penultimate(last but one) weeks before their presentation.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/ DELIVERABLE
1	Thursday	5 Dec	Introduction to Site Analysis Discussions on the four Design Site Plans-Documentation		
2	Thursday	2 Jan	**Lecture 1: Terrace and Road grading** Introduction of Coursework and Formation of groups Site Analysis,programme development & topic discussion (Groupwork)- First Review		The class will be divided under two teams and will work in groups of 4 each-Ten group(2 site for each team)
3	Thursday	9 Jan	**Lecture 2: Drainage Methods: Grey and Green Infrastructural Possibilities** Final review & Submission of Site Analysis, Programme final discussion Site strategy- Preliminary Discussion		Studio exercise road & terrace grading (5 mrks) Preliminary marking on students site analysis work
4	Thursday	16 Jan	**Openspace Design Preliminary Design Discussion** Discussions -Individual discussions with Guides on Site Strategy and design ideas (Progressive marking) (Introdution to Student presentations: topics to be alloted)	30	Final review and marking of Site Analysis+Site Model-A3/ A2 Booklets with incorporation of crits/suggestions from earlier review (Groupwork)-First Review(25 marks)
5	Thursday	23 Jan	**Lecture 3 :Landscape architecture :Drawings,site practices.** Design Discussions -Individual discussions with Guides on Site Strategy and design ideas (Progressive marking)	10	Submission of site zoning & design program and design strategy:Plan+ sections+3D Renderings (A2 sheets)
6	Thursday	30 Jan	**Lecture 4:Materials in Landscape**. Design Discussions & discussion on student presentations Design Discussions -Individual discussions with Guides on Site Strategy and design ideas (Progressive marking)entation topics (10 groups)	10	
7	Thursday	6 Feb	**Lecture 5:Introduction to Planting Design.** Landscape Design Review and Progress marking Discussion on student presentation topics (10 groups)	20	Progressive review: Design Drawings:Plan,sections(A2)
8	Thursday	13 Feb	Design Discussions:Discussion on detailing Discussion on student presentation topics (10 groups)	Prefinal Submission for landscape Design Assignment	
9	Thursday	20 Feb	Discussion on design drawings Discussion on student presentation topics (10 groups)	Final Submission	Plan+3D Renderings
10	Thursday	27 Feb	**Student Presentations:Landscapes of the past**(10 presentations)(10 mins each group)	30 Marks for Weekly Presentations	Presentation(10 groups-2 each)
11	Thursday	5 Mar	**Final landscape Design Submission and Review**	50	Final Design marking)(plan,section,details ,views to suitable scale)
12	Thursday	12 Mar	**Student Presentations:Restorative Landscapes**(10 presentations)(10 mins each group)	30 Marks for Weekly Presentations	Presentation(10 groups-2 each)
13	Thursday	19 Mar	**Student Presentations:Landscapes of meaning** (10 presentations)(10 mins each group)	30 Marks for Weekly Presentations	Presentation(10 groups-2 each)
14	Thursday	26 Mar	**Student Presentations: Urban Landscapes** (10 presentations)(10 mins each group)	30 Marks for Weekly Presentations	Presentation(10 groups-2 each)(10 marks for attendance)

EVALUATION CRITERIA	The assessment of the work of the students is divided as: Assignments Group work/Individual will be assessed on the following basis: quality of ideas explored, involvement and rigour, quality of work (final product) and completion status , perseverence Students will be evaluated based on their ability to conceptualise and reprsent ideas through drawing work and model making skills, the ability to question existing notions and devise alternative methods of thinking and exploration.(Marking criteria for design stages:25% understanding,25% ideation,25% -Process,25% completion of submission requirement)
LEARNING OUTCOMES	1: Sensitising students to the nuances of smaller scale open space analysis 2: Understanding to discern the connections of the immediate site surroundings to the larger ecological networks and systems. 3: Strengthening the ability to develop landscape programmes and develop techniques to represent them through the medium of drawings.
READING LIST	Form and Fabric in Landscape Architecture : A Visual Introduction , Catherine Dee Toward an Urban Ecology, Kate Orff Landscape Graphics by Grant W. Reid, Design with Nature, Ian L McHarg Digital Drawing for Landscape: Bradley Cantrell Landscape Architecture In India, A Reader: Mohammad Shaheer (Editor), Geeta Wahi Dua (Editor), Adit Pal (Editor) Tracing Narratives: Indian Landscape Design- LEAF, Ahmedabad

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Allied Design

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective).
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Allied Design
Course Code: BARC 602 **Sem 6** **Year Third Year**

Course Objectives:

The course aims to inculcate a thorough understanding of landscape programmatic development, open space planning, and landscape design development in the students. Emphasis will be given to the attitude of inquiry and site explorations. And to encourage the students to explore 'Landscape Projects and Practices'.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To sensitize students to the nuances of open spaces of varied scales from Regional - large scale to small space analysis.
CO2	To enable students to build connections of the immediate site surroundings to the larger ecological networks and systems with their inter-relationships.
CO3	To explore 'Landscape Projects + Practices' as part of a series of student presentations and discussions in order to expose them to various possibilities in the purview of landscape architecture.
CO4	To help students formulate landscape programs that respond to the users, architectural programs, and site responses.

Rubrics:

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture							
Year & Sem:	**Subject:**	**University Subject Code**	**Sessional Marks**	**Exercise 01 - Marks out of**	**Credits**	**Date of submission**		
THIRD YEAR - SEM 6	**Allied Design**	**BARC 602**	**100**	**100**	**3 + 1 (extra)**			
Exercise: Title	Open space planning and landscape design for hilly terrains of the city of Kohima, Nagaland							
Exercise Note / Task	The exercise equips the students with a set of basic techniques/ methods pertaining to the topic. The sites for study and intervention are chosen in conjunction with the Architectural Design Studio (with a focus on the Peri-Urban Conglomerations) for better integration between the subjects. The case study sites being peri-urban areas, have conditions pertaining to urban as well as. It will culminate in a short esquisse which will be a culmination of the research the students worked on.							

Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Attendance and participation	100 to 95% very active presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence
Data Gathering/ monitoring and collating	Showcasing all adopted tools, and frameworks to develop a methodology to critique and analyze the data collected	Showcasing well outstanding insights adopted tools, and frameworks to develop a methodology to critique and analyse the data collected	Showcasing Outstanding insights using tools, and frameworks to develop a methodology to critique and analyse the data collected	Showcasing excellent insights using adopted tools, and frameworks to develop a methodology to critique and analyse the data collected	Showcasing very good insights using adopted tools, and frameworks to develop a methodology to critique and analyse the data collected	Showcasing good insights using adopted tools, and frameworks to develop a methodology to critique and analyze the data collected	Showcasing fair insights using adopted tools, and frameworks to develop a methodology to critique and analyze the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks
Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and design intent	Well-curated outstanding analytical drawings and clarity in explaining the concept and design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept	Very Good curation using outstanding analytical drawings and clarity in explaining the concept	Good curation using outstanding analytical drawings and clarity in explaining the concept	Fair curation using outstanding analytical drawings and clarity in explaining the concept	Basic level of inquiry incorporating the minimum requirements	Arbitrary and Adhoc Inquiry
Representation Technique and final submission	Very well-formatted presentation of case studies explaining concepts, the process adopted using diagrams, sketches, and assessment	Well-formatted presentation of case studies explaining concepts, and processes adopted using diagrams, sketches, and assessment	Clear formatted presentation of case studies explaining concepts, processes adopted using diagrams, sketches, and assessment	Very good formatted presentation of case studies explaining concepts, the process adopted using diagrams, sketches, and assessment and design intent	Good formatted presentation of case studies explaining concepts, the process adopted using diagrams, sketches, and assessment and design intent	Fairly formatted presentation of case studies explaining concepts, the process adopted using diagrams, sketches, and assessment and design intent	Barely managed to get clarity of intent and study using poor diagrams and sketches and design intent	Less clarity in terms of ideas and processes to be followed	Absolutely no clarity of thought and understanding of the subject

CO-PO mapping for a course of 'UG Program

Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To sensitize students to the nuances of open spaces of varied scales from Regional - large scale to small space analysis.	3	2	2	0	0	1	3	3
CO2	To enable students to build connections of the immediate site surroundings to the larger ecological networks and systems with their inter-relationships.	2	2	1	2	2	2	3	2
CO3	To explore 'Landscape Projects + Practices' as part of a series of student's presentations and discussion in order to expose them to various possibilities in the purview of landscape architecture	2	3	1	1	0	2	0	0
CO4	To help students formulate landscape programs that respond to the users, architectural programs, and site responses.	3	3	3	2	2	2	3	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC603					
COURSE NAME	ARCHITECTURAL BUILDING CONSTRUCTION VI	SEMESTER	Sem 6	CREDITS	3
FACULTY	Jimmy, Shrey, Neeraj, Dyanesh, Sandhya, Avneesh	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 Marks
TIME	8:00 to 11:20	TEACHING HOURS	54 periods of 50 minutes duration- 45 hours	TIME REQUIRED OUTSIDE OF CLASS	None

UNIVERSITY COURSE DESCRIPTION	*RCC Floor system for large bay sizes, Pre cast and Prefab building elements in various materials*
PEDAGOGIC INTENT	*The learning curve in the third year is to understand large span construction methods for the public institution typology where by all aspects of structure and skin are understood in detail so as the same may help the students in resolution as well as detailing in the technology studio in the current semester.*
METHOD	An hour long traditional lecture with illustrations, followed with minor assignment.

SCHEDULE	Date	Day	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
week 1	04/12/2019	Wednesday	Introduction		
week 2	11/12/2019	Wednesday	Precast Construction		
week 3	18/01/2020	Wednesday	Elective		
week 4	08/01/2020	Wednesday	Prestressed concrete		Case study report
week 5	15/01/2020	Wednesday	Post stressed concrete		
week 6	22/01/2020	Wednesday	Introduction to advanced slab systems		
week 7	29/01/2020	Wednesday	Flat slab system		Case study report
week 8	05/02/2020	Wednesday	Ribbed and waffel slab		
week 9	12/02/2020	Wednesday	Diagrid slab		
week 10	19/02/2020	Wednesday	Holiday		
week 11	26/02/2020	Wednesday	Retaining walls and raft foundation		Case study report
week 12	04/03/2020	Wednesday	Building skins 1		
week 13	11/03/2020	Wednesday	Building skins 2		
week 14	18/03/2020	Wednesday	Class test		

EVALUATION CRITERIA	*Evalution criteria usually comprises of progressive class work and assessment of sketch design as well as resolution through small week long exercises based on the theoritical lectures and case studies put forth, site monitoring of an ongoing site and report for the same as well as a class test shall also contribute to 25% of the assessment.*
LEARNING OUTCOMES	*Student should have derived the ability to resolve structure through innovation, understand the strengths and limtations of the material adopted for structure along with detailing of the skin to help understand design criteria, material application and market practices of the systems adopted in an organised manner.*
READING LIST	Building construction Handbook by Chudley & Greeno, Advanced Construction by Barry, Structure and fabric part II by Mitchelle

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Building Construction and Materials 6*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Construction and Materials 6
Course Code: BARC603 Sem 6 Third Year

Course Objectives:

- Understand the principles and techniques of large span construction methods for public institution typology, with a focus on precast concrete elements, post-stressed, and pre-stressed concrete.
- Gain in-depth knowledge of the design, construction, and detailing aspects of precast concrete elements, including their advantages, limitations, and applications in architectural projects.
- Explore the concepts and practices of post-stressed and pre-stressed concrete, including their structural behavior, design considerations, and the use of specialized materials and systems.
- Study the design and construction of retaining walls, including different types, their functions, and the various methods employed to ensure stability and longevity.
- Develop a comprehensive understanding of raft foundations, including their design principles, construction techniques, and their role in supporting large span structures.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To apply analytical skills to design and analyze framed structures, incorporating both RCC and MS steel elements.
CO2	To critically evaluate and optimize the structural and detailing aspects of framed structures, considering the interplay between architectural aesthetics, functionality, and construction feasibility.
CO3	To develop the ability to resolve large span construction, utilizing precast elements and considering post-stressed and pre-stressed concrete techniques, retaining wall systems, and raft foundations.
CO4	To address ethical considerations related to the use of construction materials and techniques in large span architectural design, taking into account sustainability, environmental impact, and societal well-being.

Rubrics:

Year of Assessment : 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks**	**Exercise 01: Marks out of**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**
THIRD YEAR - SEM 6	**ABCM6**	**BARC 603**	**603**	**50**	**50**	**4**	**Multiple**		
Exercise: Title	Structural resolution of Architectural Building construction and material from Sem 6								
Exercise Note / Task	Portfolio submission by students								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
Data Gathering/ monitoring and collating	Showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks
Representation Technique and final submission	Very well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Well formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Clear formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Very good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Good formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Fairly formatted presentation of case studies explaining concepts, process adopted using diagrams, sketches and assessment	Barely managed to get clarity of intent and study using poor diagrams and sketches	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and understanding of the subject
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem ……6…

CO-PO mapping for a course of "UG program" Architectural Building Construction and Materials 6									
Sr. No.	CO description	PO 1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To apply analytical skills to design and analyze framed structures, incorporating both RCC and MS steel elements.	2	1	1	0	0	1	3	0
CO2	To critically evaluate and optimize the structural and detailing aspects of framed structures, considering the interplay between architectural aesthetics, functionality, and construction feasibility.	1	2	3	0	0	3	2	1
CO3	To develop the ability to resolve large span construction, utilizing precast elements and considering post-stressed and pre-stressed concrete techniques, retaining wall systems, and raft foundations.	3	0	2	0	2	1	3	1
CO4	To address ethical considerations related to the use of construction materials and techniques in large span architectural design, taking into account sustainability, environmental impact, and societal well-being.	1	0	0	3	2	2	0	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 604						
	COURSE NAME	THEORY AND DESIGN OF STRUCTURES VI	SEMESTER	Six	CREDITS	3
	FACULTY	AMODH LUMAN	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 marks
	TIME	9.40 TO 11.20 AM	TEACHING HOURS	1.66HR	TIME REQUIRED OUTSIDE OF CLASS	1.66 HRS PER WEEK
UNIVERSITY COURSE DESCRIPTION	Design of RCC Structures					
PEDAGOGIC INTENT	The course shall create the necessary skills for design of simple RCC structures,understanding of relevant ISI code requirements,comparative understanding of member sizes in RCC structures in relation to structures constructed using other materials.The course also intend to develope comparative understanding of different structural systems in RCC for the given design program.					
METHODOLOGY	Giving inputs in the form of lectures,powerpoint presentations,screenings to enable the students to understand the concepts,design procedures etc.Making the students to work on assignments based on the concepts discuss in the class.					

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1,2	Saturday	12-Jan-19	MATERIALS FOR RCS STRUCTURES		
	Saturday	30-Jan-19	STUDY OF RCC MEMBERS SUBJECTED TO BENDING		
week 3,4	Saturday	02 Feb. 2019	ANALYSIS OF SINGALY REINFORCED BEAMS		
	Saturday	9 Feb. 2019	ANALYSIS OF DOUBLY REINFORCED BEAMS		
week 5,6	Saturday	13 Feb. 2019	DESIGN OF RCC BEAMS SINGLY & DOUBLY REINFORCED		
	Saturday	16 Feb. 2019	ANALYSIS & DESIGN OF FLANGED BEAMS		Assignment 1
week 7,8	Saturday	20 Feb. 2019	DESIGN OF BEAMS FOR SHEAR		
	Saturday	23 Feb. 2019	DESIGN OF ONE WAY SLABS		
week 9,10	Saturday	27 Feb. 2019	DESIGN OF TWO WAY SLABS		
week 11,12	Saturday	02-Mar-19	ANALYSIS OF RCC SHORT & LONG COLUMNS		
	Saturday	06-Mar-19	DESIGN OF RCC COLUMNS		
week 13,14	Saturday	09-Mar-19	DESIGN OF SQUARE FOOTINGS		
	Saturday	13-Mar-19	DESIGN OF RECTANGULAR FOOTINGS		
week 15,16	Saturday	16-Mar-19	STUDY OF RCC ADVANCED FLOORS		
	Saturday	20-Mar-19	ELEMENTS OF CONCRETE TECHNOLOGY		Assignment 2

EVALUATION CRITERIA	Performance of the students in the assignments given in the classwork and the final exam.
LEARNING OUTCOMES	The students will be versed with potential of RCC structures and the basic procedures for design of RCC structures,so that they will be in better position to have an effective dialogue with structural engineers and contractors in their professional life.
READING LIST	Design of RCC Structures by Karve & Shah.

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Theory and Design of Structures 6*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Theory and Design of Structures 6
Course Code: BARC 604

Sem 6

Name - 3rd Year

Course Objectives:

- To develop a sound understanding of the principles of RCC design with emphasis on design at the member level using a fusion of theoretical concepts and practical design examples.
- To encourage and enable students to use RCC members and systems in their design projects.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Introduction to concrete as a structural material, its inherent properties, advantages, shortcomings and its relevance to architecture
CO2	Develop an intuitive understanding of grid floor and floor slabs and transfer of load in the system
CO3	Understand the behavior of typical members in an RCC structural elements with emphasis on making structural drawings and good structural planning.
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
THIRD YEAR - SEM 6	Theory and Design of Structures 6	BARC 604	BARC 604	50	50	3			
Exercise: Title	Case study on use of RCC as structural members								
Exercise Note / Task	Assignment +Test								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Data Gathering/ monitoring and collating	All data to be collected from reliable sources with references included in the reports. Exceptional in showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected.	All data to be collected from reliable sources with references included in the reports. Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with most references included in the reports. Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks
Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
In-depth understanding a theory and its application in the architectural field	Exceptional analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Very well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Excellent curation using outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation.	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry

Representation Technique and final submission	Very well formatted presentation explaining concepts, process adopted using various tools and techniques	Well formatted presentation explaining concepts, process adopted using various tools and techniques	Clear formatted presentation explaining concepts, process adopted using various tools and techniques	Very good formatted presentation explaining concepts, process adopted using various tools and techniques	Good formatted presentation explaining concepts, process adopted using various tools and techniques	Fairly formatted presentation explaining concepts, process adopted using various tools and techniques	Barely managed to get clarity of intent and study using poor diagrams and sketches	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and understanding of the subject
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem 6

CO-PO mapping for a course of "Theory and Design of Structures 6"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Introduction to concrete as a structural material, its inherent properties, advantages, shortcomings and its relevance to architecture	2	1	1	3	2	0	0	1
CO2	Develop an intuitive understanding of grid floor and floor slabs and transfer of load in the system	2	3	2	3	1	0	0	1
CO3	Understand the behavior of typical members in an RCC structural elements with emphasis on making structural drawings and good structural planning.	3	3	3	2	2	0	2	1
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional.	3	2	3	2	3	1	2	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 608						
	COURSE NAME	Architectural Building Services 4	SEMESTER	6	CREDITS	3
	FACULTY	Minal, Kimaya, Jimmy Durvesh Sonali	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 marks
	TIME	Thursday (12.00 - 3.00)	TEACHING HOURS	12 hours	TIME REQUIRED OUTSIDE OF CLASS	4 Hours

COURSE DESCRIPTION	Study of fire regulation, Code of safety, different materials and their combustibility, design consideration of fire safety, fire escape routes. Fire alarm sytems, fire fighting and protection systems, water supply for fire fighting, wet risers, dry risers, static tanks etc, water supply for high rise buidlgings and other services, electrical distribution of electricity, Mobility within building, Escalators and Elevators.
PEDAGOGIC INTENT	This semester deals with topics like Fire related services and mobility within the building. The intent of the course is to enable inherent understanding of safety parameters like detection systems, alarm systems, information systems, escape systems and finally fire fighting systsems in the builiding. The escape modes disucssed are fire escape staircases and escape chutes. Also discussed are Escalators and Elevators.
TEACHING METHODS	

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
Week 1	Thursday	21-11-2019	STUDY TRIP WORK		
Week 2	Thursday	28-11-2019	STUDY TRIP WORK		
Week 3	Thursday	05-12-2019	Revision lecture on public toilet design and the site services + studio		
Week 4	Thursday	12-12-2019	Public Toilet studio - design development		Introduction to case study assignment
Week 5	Thursday	19-12-2019	**PRE-ANNUAL**		
Week 6	Thursday	26-12-2019	**ELECTIVE WEEK**		
Week 7	Thursday	02-01-2020	**WINTER BREAK**		
Week 8	Thursday	09-01-2020	**SUBMISSION - Layout plans, UG, OHT and RWH calculations and placements of the same**	10%	
Week 9	Thursday	16-01-2020	Fire Fighting Lecture - safety importance, history of FF, types of fire, passive design features, specifications, byelaws + active systems		
Week 10	Thursday	23-01-2020	Studio on FF		
Week 11	Thursday	30-01-2020	**SUBMISSION on FF**	10%	
Week 12	Thursday	06-02-2020	High rise water supply		
Week 13	Thursday	13-02-2020	**Elevators and escalator**		
Week 14	Thursday	20-02-2020	**Final Submission**	20%	
Week 15	Thursday	27-02-2020	case study presentation 5 groups	10%	
Week 16	Thursday	05-03-2020	case study presentation 5 groups		
Week 17	Thursday	12-03-2020	case study presentation 5 groups		
Week 18	Thursday	19-03-2020	case study presentation 5 groups		

LEARNING CRITERIA	The intent is to help students to internalize the safety and mobility concepts in the building. This includes understanding and incorporating national byelaws for safety. Students are encourages to create scenarios and behaviour patterns of the occupants to come up with better resolutions.
EVALUATION CRITERIA	The students are evaluated on their understanding of designing the fire fighting systems both passive as well as active, fire escape systems in their designs considering the density, movements patterns, functions, massing of the building on their site.
READING LIST	

CO-PO mapped syllabi of B. Arch Course 2019-2020 – Architectural Building Services 4

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpret learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorize and conceptualize ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project.
6. To enable the student to observe, experience, analyze space, its physicality, and its associations through the body.
7. To enable the student to extract the abstract from the experiential and center it as the basis of design.
8. To enable the student to break the boundary between abstract thought and material realities.
9. To enable students to discover multiple methods and tools to develop their own process of learning.
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive ways of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that can navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own

comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Services 4

Course Code: BARC 608 Sem 6 Third Year

Course Objectives:

The Architectural Building Services course in this semester intends to develop the concept of safety and security, stability and mobility within a building.

This course enables the students to explore and understand relevant architectural design elements and principles that aids in hazard mitigation.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To enable students to understand the components and workability of passive as well as active fire systems within a building.
CO2	To make students explore the infrastructural systems integrated in vertical movement and further realize the relevance of mobility in architectural design, using a case study based approach.
CO3	To understand the advanced scientific and technical as well as sustainable know-how of water supply systems in high-rises.

Rubrics

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
THIRD YEAR - SEM 6	**Arch. Building services**		**BARC 608**	**50**		**3**	**Multiple**		
Exercise: Title	**Fire Safety planning for their AD project + case study**								
Exercise Note/task	**Preparation of detailed working drawings of Public toilet with other necessary site services**								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Understanding of systems and their integration with other systems as well as with space	1)Complete understanding of systems 2) its integration with other system 3) its hierarchy in planned space	1)Very good understanding of systems 2) its integration with others and its position in planned space.	Good understanding of systems and its integration and its position in planned space.	Fairly good understanding of systems and its integration and its position in planned space.	1)Understanding of a system is seen along with other systems 2) lacking spatial integration.	1)Lesser understanding of the system is seen along with other systems 2) lacking spatial integration.	1)Poor understanding of the system. 2)No understanding of integration with other systems.	Extremely poor understanding of the system.	Non-Submission
Representation Technique and final submission	Logical and semantic representation	Logical representation	Good representation in all aspect	Good representation in all aspect	Fairly represented in all aspect	The drawings could be understood	Representation needed clarification	Drawings not clear enough	Non-Submission
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

CO-PO MAPPING

	CO-PO mapping for a course of "UG program"									
S.N.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	
CO1	To enable students to understand the components and workability of passive as well as active fire systems within a building.	0	2	2	1	2	1	2	3	
CO2	To make students explore the infrastructural systems integrated in vertical movement and further realize the relevance of mobility in architectural design, using a case study-based approach.	3	2	0	0	2	1	2	3	
CO3	To understand the advanced scientific and technical as well as sustainable know-how of water supply systems in high-rises.	0	0	2	2	2	1	2	3	

BARC 605	COURSE NAME	HUMANITIES (2019-20)	SEMESTER	Six	CREDITS	3
	FACULTY	Hussain, Shweta	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50 mark
	TIME	Friday 12 pm	TEACHING HOURS	Lecture	TIME REQUIRED OUTSIDE OF CLASS	None

UNIVERSITY COURSE DESCRIPTION	*None*
PEDAGOGIC INTENT	*The third year humanities course intends to shift inquiry from built space to the process of its production - to grasp the contested nature of spatial processes. The city of Mumbai will be the main object of investigation. In the sixth semester we will explore the social history of the late colonial and post-colonial period of Mumbai city-region.*
METHODOLOGY	*The course will be a weekly lecture and discussion seminar, of 2 hours per session. The course is designed as a series of threads or stories about the city, through which the students will be introduced to its various institutions, interest groups, significant events, and spatial developments. The stories will be narrated through lectures, readings and films, and occasionally students will be expected to make presentations.*

SCHEDULE	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/ DELIVERABLE
week 1	22nd Nov	*Introduction*		
week 2	29th Nov	*Sewers: Caste, Class and Segregation*		
week 3	6th Dec			
week 4	13th Dec	*Boundaries: political geography of the MMR*		
week 5	20th Dec			
week 6	3rd Jan	*Migration: Livelihood in the city of dreams*		
week 7	10th Jan			
week 8	17th Jan	*Riots: wages of violence*		
week 9	24th Jan			
week 10	31st Jan	*Congestion: the struggle for space and time*		
Week 11	7th Feb			
Week 12	14th Feb	*Megaprojects: (dis)connecting people and places*		
Week 13	28th Feb			
Week 14	6th Mar	*Concluding Seminar*		

EVALUATION CRITERIA	*The main assignment will be a 1500 word article that students will develop through the course by identifying one of the threads explored during the 13 weeks. This will be given 75% of the weight. Class participation will be given 25% of the grade.*
LEARNING OUTCOMES	*1) An introduction to Mumbai's growth and transformation through a social-history perspective. The course will provide a critical-historical framework to explore the social and spatial evolution of Mumbai region (MMR), with an emphasis on the highly contested process of spatial production, and the centrality of relations of power and politics in shaping the city.* *2) A historical overview of the city's physical and demographic growth, economic and social geography, institutional-administrative structure, and urban planning and development policy.* *3) A critical overview of the processes of urbanization, migration, industrialization – and public policy responses in the form of regional planning, environment conservation, heritage conservation, and policies for public housing, infrastructure and services.*
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020 – HUMANITIES SEM 6

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete).
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Humanities
Course Code: BARC605
Sem 6

Course Objectives:

1) An introduction to Mumbai's growth and transformation through a social-history perspective.
2) A critical overview of the processes of urbanization, migration, industrialization
3) Understanding Mumbai's evolution through regional planning practice, environment conservation, heritage conservation, and policies for public housing, infrastructure and services.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Students will be introduced to Mumbai's growth and transformation through a social-history perspective.
CO2	Students will be provided a critical overview of the processes of urbanization, migration, industrialization
CO3	Students will be introduced to Mumbai's regional planning practice, environment conservation, heritage conservation, and policies for public housing, infrastructure and services.

Rubrics:

Year of Assessment: 2019-20	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 : Marks out of**	**Credits**	**Date of submission**		
SECOND YEAR - SEM 3	**Hum**	**BARC605**	BARC 605	**50**	**50**				
Exercise: Title	Class case study presentations								
Exercise Note / Task	Present a case-study in groups in an audio-visual format								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
(A) Interpretation of Case Study	Excellent understanding of the case, ability to identify the determinants and explain them lucidly, is able to connect the case to contemporary examples	Very good understanding of the case, ability to identify the determinants and explain them well, is able to connect the case to contemporary examples	good understanding of the case, ability to identify the determinants and explain them competently	good understanding of the case, ability to identify the determinants and explain them adequately	A fair understanding of the case, ability to identify the determinants and explain them adequately	A fair understanding of the case, ability to identify the determinants	An minmal understanding of the case, somewhat able to identify determinants	An minmal understanding of the case,	Little or no understading of the case
(B) Presentation Quality as a whole	Outstanding organization of the presentation, exceptionally clear presentation combined with creative use of visual aids	Exceptionally well structured, exceptionally clear presentation combined with creative use of visual aids	Well structured, exceptionally clear presentation combined with good use of visual aids	Very Clear presentation, combined with good use of visual aids	Well organized presentation, combined with competent use of visual aids	Manage to convey the ideas adequately	Some difficulty in expressing ideas, acceptable	Difficulty in explaining	poorly constructed and unable to convey ideas
(C) Participation and conduct in class	90% attendence or more, active participation in class and excellent conduct overall	90% attendence or more, good participation in class and very good conduct overall	80% - 90% attendence, active participation in class and excellent conduct overall	80% - 90% attendence, good participation in class and very good conduct overall	70% -80% attendence, active participation in class and excellent conduct overall	70% -80% attendence, good participation in class and very good conduct overall	50% - 70% attendence	50% - 70% attendence	50% attendence or less

CO-PO mapping Humanities Sem 6									
Sr. No.	**CO description**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	Students will be introduced to Mumbai's growth and transformation through a social-history perspective.	**3**	**2**	**1**	**2**	**2**	**3**	**3**	**2**
CO2	Students will be provided a critical overview of the processes of urbanization, migration, industrialization	**3**	**1**	**0**	**3**	**2**	**3**	**3**	**2**
CO3	Students will be introduced to Mumbai's regional planning practice, environment conservation, heritage conservation, and policies for public housing, infrastructure and services.	**2**	**0**	**0**	**2**	**2**	**2**	**3**	**3**

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 607						
	COURSE NAME	ARCHITECTURAL REPRESENTATION AND DETAILING VI	SEMESTER	VI	CREDITS	4 + 2
	FACULTY	AINSLEY,SANDHYA, JIMMY, NEMISH, AVNEESH DURVESH DNYANESH, MIHIR, MINAL AND KIMAYA	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	EXTERNAL JURY - 100 MARKS
	TIME	MONDAY - 8.00 - 3.00	TEACHING HOURS	200 MINUTES/WEEK	TIME REQUIRED OUTSIDE OF CLASS	EVERY WEEK 3 HRS
UNIVERSITY COURSE DESCRIPTION	INTRODUCTION TO WORKING DRAWINGS AND TENDER DOCUMENT, BUILDING MATERIAL SPECIFICATION AND BILL OF QUANTITIES FOR LOAD BEARING AND FRAMED STRUCTURES					
PEDAGOGIC INTENT	THE SUBJECT IS AN ATTEMPT TO BRING ABOUT A DETAILED RESOLUTION OF DESIGN THROUGH TECHNICAL REPRESENTATION OF ACQUIRED KNOWLEDGE OF CONSTRUCTION, SERVICES,BUILDING MATERIAL AND COMPUTING THEREBY LEADING TO PREPARATION OF A FINE SET OF WORKING DRAWINGS, VERY RELEVANT FOR GOOD PRACTICE					
METHODO	EVERY CLASS SHALL COMPRISE OF TWO LECTURES OF 40 MINUTE EACH, ONE EXPALINING TECHNIQUES/ CRITERIA/ DETAILING FOR PREPARING OF WORKING DRAWINGS USUALLY FOLLOWED BY A WORKING STUDIO AND AN INTERACTION WITH RESPECTIVE FACULTY WHO HAVE BEEN GUIDING THEM RESOLVE THEIR PROJECTS AND HAVE ASSESSED THEIR ASSIGNMENTS.					

SCHEDULE	DAY	DATE	STUDIO SESSION	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1,2	Monday	18-Nov-19	COLLEGE REOPENS: STUDY TRIPS		
	Monday	25-Nov-19	REVIEW OF DESIGN RESOLUTION		INTRODUCTORY LECTURE
week 3,4	Monday	02-Dec-19	RESOLUTION OF STRUCTURE		LOCATION AND SETTING OUT
	Monday	09-Dec-19	RESOLUTION OF STRUCTURE		
week 5,6	Monday	06-Jan-20	RESOLUTION OF STRUCTURE		
	Monday	13-Jan-20	**ASSESSMENT CENTRE LINE, FOUNDATION, PLINTH**	**20**	**FINAL CENTRE LINE & FOUNDATION PLANS**
week 7,8	Monday	20-Jan-20	REVIEW OF FLOOR PLANS		
	Monday	27-Jan-20	**ASSESSMENT OF ALL FLOOR AND ROOF PLANS**	**20**	**FINAL FLOOR AND ROOF PLANS**
week 9,10	Monday	03-Feb-20	REVIEW OF SECTIONS AND ELEVATIONS		
	Monday	10-Feb-20	REVIEW OF SECTIONS AND ELEVATIONS		
week 11,12	Monday	17-Feb-20	**ASSESSMENT OF SECTIONS AND ELEVATIONS**	**20**	**ALL ELEVATIONS AND SECTIONS**
	Monday	24-Feb-20	REVIEW OF DETAILS		
week 13,14	Monday	02-Mar-20	REVIEW OF DETAILS		
	Monday	09-Mar-20	**ASSESSMENT OF DETAILS + PORTFOLIO SWAP**	**20 + 20**	**MARKS: DEFAULTER LIST**
week 15,16	Monday	16-Mar-20	CONDONATION PERIOD/ LECTURE/ INTERACTION		
	Monday	23-Mar-20	**CONDONATION REVIEW/ PORTFOLIO SUBMISSION**	**OUT OF 100**	**FINAL COMPILATION OF MARKS**

EVALUATION CRITERIA	A STUDENTS ASSESSMENT SHALL BE DONE ON THE BASIS OF TWO SET OF DELIVERABLES- SET OF BASIC WORKING DRGS (100 MARKS) AND SET OF RELEVANT DETAILS WITH QUOTING OF RELEVANT BUILDING MATERIAL SPECIFICATION USED IN THE DETAILING OF THEIR PROJECTS.
LEARNING OUTCOMES	A STUDENT SHOULD BE ABLE TO RESOLVE HIS PROJECT THROUGH A SET OF WELL REPRESENTED WORKING DRAWINGS AND BILL OF QUANTITIES BASED ON THE TECHNICAL KNOWLEDGE ACQUIRED BY HIM OVER THE LAST TWO YEARS.
READING LIST	DRAWING SET OF ARCHITECTURAL PLANS , VARIOUS ARCHITECTS WORKS

CO-PO mapped syllabi of B. Arch Course 19-20 – Architectural Representation and detailing 6

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpret learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorize and conceptualize ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive ways of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic

systems (Technical / Social)

7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Representation and detailing 6

Course Code: BARC 607 Sem 6 Third Year

Course Objectives:

The studio looks to blur the lines of *design and making* as two separate modes of knowledge and set up a space for students to have an analytical, questioning attitude towards all aspects of technology. This also encompasses the idea that a student is able to choose correct technology and materials to support it. The subject is an attempt to bring about a detailed resolution of design through technical representation of acquired knowledge of construction, services, building material and computing thereby leading to preparation of a fine set of working drawings and a tender document, very relevant for good practice.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Students are enabled to develop and resolve without compromising their design ideas to match the program requirements and operations.
CO2	Students are enabled to choose the correct system from the wide array of structural, infrastructural, envelope systems along with the appropriate construction material and technique to arrive at a design idea.
CO3	To be able to understand material behavioral properties and be able to take informed design decisions based on theoretical knowledge learnt
CO4	To be able to create a detailed portfolio showcasing all design attributes and detailing for execution purposes

Rubrics:

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
3rd yr. 6th Sem	ARD		BARC 607	100		6	Multiple		
Exercise: Title	Working drawings for their AD project								
Exercise Note / Task	To prepare a detailed set of working drawings with 3 details								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Choice and integration of various systems such as structural, envelope, materials and services adopted in context of the site and program.	Innovative & outstanding well-developed systems that integrate with program & context and spatial planning with extremely good detailing.	Outstanding developed systems that integrate with program, context and spatial planning with extremely good detailing	Excellent well-developed systems that integrate with program, context and spatial planning with extremely good detailing	Extremely well-developed systems that integrates with program, context and spatial planning with extremely good detailing	Very Well-developed systems that integrates with program, context and spatial planning with extremely good detailing	Good developed systems that integrate with program, context and spatial planning with extremely good detailing	Fairly good developed systems that integrates with program, context and spatial planning with extremely good detailing	Manages to develop systems that integrates with program, context	Absolutely no clarity of systems, or non-submission
Representation Technique and final submission	Very well formatted presentation of working drawings complete with details and BOQ report	Well formatted presentation of working drawings complete with details and BOQ report	Clear formatted presentation working drawings complete with details and BOQ repot	Very good formatted presentation of working drawings complete with details and BOQ report	Good formatted presentation of working drawings with some details and BOQ report	Fairly formatted presentation of working drawings with incomplete details and BOQ report	Barely managed to get working drawings complete with no details and BOQ report	Incomplete set of working drawings BOQ repor	Absolutely no clarity of thought and understanding of the applied subjects
Ability to demonstrate the Learnings from the discussions	Showcasing 100% ability to	Showcasing 90% ability to	Showcasing 80% ability to translate	Showcasing 70% ability to	Showcasing 65% ability to	Showcasing 60% ability to	Showcasing 55% ability to translate	Showcasing 50% ability to	Zero understanding

Year of Assessment : 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
3rd yr. 6th Sem	ARD		BARC 607	100		6	Multiple		
Exercise: Title	Working drawings for their AD project								
Exercise Note / Task	To prepare a detailed set of working drawings with 3 details								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Choice and integration of various systems such as structural, envelope, materials and services adopted in context of the site and program.	Innovative & outstanding well-developed systems that integrate with program & context and spatial planning with extremely good detailing.	Outstanding developed systems that integrate with program, context and spatial planning with extremely good detailing	Excellent well-developed systems that integrate with program, context and spatial planning with extremely good detailing	Extremely well-developed systems that integrates with program, context and spatial planning with extremely good detailing	Very Well-developed systems that integrates with program, context and spatial planning with extremely good detailing	Good developed systems that integrate with program, context and spatial planning with extremely good detailing	Fairly good developed systems that integrates with program, context and spatial planning with extremely good detailing	Manages to develop systems that integrates with program, context	Absolutely no clarity of systems, or non-submission
conducted in class	translate theoretical knowledge into practice	translate theoretical knowledge into practice	theoretical knowledge into practice	translate theoretical knowledge into practice	translate theoretical knowledge into practice	translate theoretical knowledge into practice	theoretical knowledge into practice	translate theoretical knowledge into practice	and application of theoretical knowledge
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

COPO Mapping

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Students are enabled to develop and resolve without compromising their design ideas to match the program requirements and operations.	2	1	2	2	2	1	3	2
CO2	Students are enabled to choose the correct system from the wide array of structural, infrastructural, envelope systems along with the appropriate construction material and technique to arrive at a design idea.	2	2	2	0	0	1	3	2
CO3	To be able to understand material behavioral properties and be able to take informed design decisions based on theoretical knowledge learnt	1	2	0	2	2	2	3	2
CO4	To be able to create a detailed portfolio showcasing all design attributes and detailing for execution purposes	0	0	0	0	0	2	2	2

BARC 620

COURSE NAME	College Project (Architectural Theory)	SEMESTER	VI	CREDITS	2
FACULTY	Rohan Shivkumar, Shirish , Advait Adke	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Internal
TIME	Tuesday 12.00-15.00	TEACHING HOURS	150 minutes per week	TIME REQUIRED OUTSIDE OF CLASS	-

UNIVERSITY COURSE DESCRIPTION

PEDAGOGIC INTENT

The Theory of Design Course at the KRVIA is the space for reflection and analysis on fundamental questions concerning architecture to enable self-reflection and critical thinking within students. It is the place for meditation, discussion and debate about language concerning architecture- visual, spatial, verbal as well as written. The attempt is to create a space for conversation about the dialectical relationships between the idea of 'architecture'- a disciplinary question concerned with what the domain of architecture is, what it's identity is, and what its responsibilities and ethical role is; and that of the 'self' of the 'architect' - a philosophical / psychological question that is concerned with what the particular skills of this profession are, what it's role is and how does this person place herself in the world.

Within the course there is an attempt to challenge the idea that practice and thought are separable - that there can be theory that has no concrete relevance; or that there can be practice that exists outside of thought. The course also looks beyond the tropes of 'styles' that has plagued the writing of architectural theory to investigate ontological foundations of different approaches to architecture. These involve exploring the relationship between form and meaning, of the body and space, of the self of the architect with the 'other', of the dialectical relationship between the analytical and the intuitive, and of the concrete object and the systems within which it exists- the social, economic and political. The course intends to expose students to the concerns / concepts / methods and tools of cultural practices and allow them to analyse them critically with respect to their contexts. The focus of the year is on twentieth century cultural practices and attempts to bridge disciplines through common concerns. Another focus is on unpacking concepts of the contemporary through focusing on ideas of 'Indian modernity'

METHODOLOGY

The course will examine some of the main theoretical concerns of cultural practices in the 20th Century. Through a historical lens it will drawm parallels between the world of ideas, historical contexts, cultural practices and architecture. The course will be loosely structured as a history of 20th century architecture covering the modern and 'post-modern' moments. The course will be structured as a seminar where students will present an architect/artist/movement followed by a discussion.

SCHEDULE		TEACHING CONTENT OF THE DAY	
week 1	19 Nov	Semiology - Architecture and Meaning **Mon Oncle - Complexity and Contradiction in Architecture- Robert Venturi, Barthes**	
week 2	26 Nov	History and Memory - Typology **Aldo Rossi**	
week 3	3 Dec	Phenomenology - Presence **Steven Holl, Bachelard**	
week 4	10 Dec	Dream and Repression **Tokyo Story - Bataille, Hejduk**	
week 5	17 Dec	Technophilia **Archigram - Cedric Price**	
week 6	7 Jan	Commodity and Pop **The World -Andy Warhol, Koolhas**	
week 7	14 Jan	Flaneur **Walter Benjamin- Work of art in the age of mechanical reproduction**	
week 8	21 Jan	Deconstruction **Eisenman, Tschumi**	
week 9	28 Jan	Orientalism **Edward Said**	
week 10	4 Feb	Critical Regionalism **Kenneth Frampton**	
week 11	11 Feb	Subaltern **Spivak**	
week 12	18 Feb	Situationists **Lefebvre and Debord**	
week 13	25 Feb	Of Other Spaces **Foucault**	
week 14	3 Mar	Gender **Throw like a girl**	
week 15	10 Mar	Rhizomes **Deleuze**	
week 16	17 Mar	Paper Discussions	
week 17	24 Mar	Paper Discussions	
week 18	31 Mar	Paper Submissions	**50**

EVALUATION CRITERIA

Students will be evaluated on their participation in the course, along with the writing assignment that they submit with respect to their unique and individual analytical abilities.

LEARNING OUTCOMES

The course aims to expose students to the way in which thought and action are related to each other. It will expose them to cultural practices and ideas from around the world, hoping that this would inspire them to seek out other references and works that will enrich their understanding of architecture as a cultural practice.

READING LIST

CO-PO mapped syllabi of B.Arch Course 2018-2019

College Project (Architectural Theory)

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Theory 3

Sem 6, Year 3
Course Code: BARP 620
Course Objectives:

- The course intends to introduce students to the ideas and concepts behind and within contemporary architecture.
- It helps them to understand the relationships between spatial, temporal and intellectual contexts and architectural form.
- It exposes them to analytical frameworks and helps them develop critical thinking skills.

Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines, Ethics based etc)

Course Outcome (Co)	Description
CO1	Understanding the relationship between spatial, temporal and intellectual contexts and architectural form
CO2	Understanding readings and ideas from twentieth century thought.
CO3	Applying critical thinking skills to evolve analytical frameworks to read architecture and other cultural artefacts

Rubrics

Year of Assessment: 2017-2018	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**	**University Subject**		**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
Third Year, 6 Semester	**College Project (Architectural Theory)**	**BARP 620**		**100**	**100**	**3**	**30-03-2020**		
Exercise: Title	Critical Analysis of a cultural artefact								
Exercise Note / Task	Students will be asked to choose one cultural artefact that they have beene exposed to. They will then be asked to evolve a framework and a methodology based on some of the ideas and readings introduced to them in the class. They will then submit a short paper (between 1000-1200 words) that analyses these works.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Analysis of Artefact	Original and Intellectually challenging and relevant framework with insights into the contemporary world, Brilliant analysis of artefact, well written argument . The paper might even challenge analytical frameworks employed	Intellectually challenging understanding of framework with creative Insights and references. Insightful analysis of artefact with relevant references. Well structured argument with insightful references	Excellent understanding of analytical frame works with relevant references. Well structured argument and analysis.	Good understanding of analytical frame works with relevant references. A good analysis of the artefact within the chosen frameworks. Well structured argument.	Good understanding of analytical frame works with relevant references. A clear analysis of the object in a structured argument.	Reasonable, if not quite original analytical framework. However, understanding is clear. The argument is also fine, as is the analysis.	Average analysis of object, that might often verge on the descriptive. The argument is clear but not persuasive.	There is an engagement with the object. However, the analytical framework has been misunderstood and the argument is flawed	No submission
Presentation of Argument	Attends more than 95% of total classes	Attends more than 90% of total classes	Attends more than 85% of total classes	Attends more than 75% of total classes	Attends more than 70% of total classes	Attends more than 65% of total classes	Attends more than 60% of total classes	Attends more than 55% of total classes	Attends less than 50% of total classes

COPO Mapping Setup for Sem 5

CO-PO mapping for a course of "UG Program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understanding the relationship between spatial, temporal and intellectual contexts and architectural form	3	0	0	2	0	2	3	1
CO2	Understanding readings and ideas from twentieth century thought.	1	0	0	2	0	1	3	0
CO3	Applying critical thinking skills to evolve analytical frameworks to read architecture and other cultural artefacts	3	0	0	2	0	2	3	1

1 – Slight (Low) Correlation
2- Moderate (Medium) Correlation
3- Substantial (high) Correlation
0 – No Correlation

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Fourth Year

Program Specific Objectives

1. Explore the intersections between larger themes of economy, history, policy, administration, ecology and the architectural profession

2. Critically reflect on the urban and equip students to design for the collective.

3. To recognize architectural or urban practice as embedded within various fields of technology, systems, methods, etc.

4. Incorporate evidence-based design methods together with intuitive space-making practices, to enable students to develop their own research methods.

5. Help students understand the nature and modes of practice before they begin internships and encourage specialisations in academia and practice.

6. Discuss ethical and ideological dimensions of research and practice.

Fourth Year

Pedagogic Intent

Primary Dialectical Questions : Self - Other / Analytical - Intuitive / Individual - Collective / Object - System/ Technical - Social / Architect - Architecture

The Fourth Year course intends to enable the students to begin to think about themselves as practitioners. The course exposes them to the history and the nature of the profession, along with the systems that are affecting the transformation of our built fabric. It is interested in allowing students to explore the role and nature of architecture within the larger arcs of the political economy, history and the region. Courses explore the intersections between larger themes of economy, history, policy, administration, ecology and the architectural profession. This also enables a student to see themselves as practitioners within a larger field before they head out for their internships in the following semester.

Design Studios

System Brief

Courses: Architectural Design, Allied Design,

The Fourth Year Design Studio is interested in exploring the emergence of the architectural object within Urban Systems. These systems may include historical, ecological, administrative aspects. Students are asked to explore these systems and then situate an intervention within them. Programming and urban responses are key areas of exploration. The contexts and concerns chosen within the studio are often based on the issues being felt in our context by the rapid transformation of our urban environments. Programmes that emerge range from large institutional buildings to infrastructure projects.

The Allied Design Studio runs closely with the Architectural Design Studio. It becomes the space for reading and analysing particular aspects of the urban. The student is exposed to the ways in which different scales of seeing and intervening are related to one another through processes of diagramming and representation.

The Technology and Representation Studios

Context and Systemic Questions

Courses; Technology Studio, Technology Lecture 1, Technology Lecture 2, Theory of Structures

The Technology courses in the fourth year are interested in contextualising the techniques of building within larger systemic concerns like the digital turn, climate change and urbanism. Tactile techniques of learning are integrated with digital analytical tools in courses that are exploring concerns like seismic stability and energy consumption.

There is an emphasis to expose the students to the larger issues that affect the making of buildings including the careful consideration of resources and processes as part of urban infrastructure systems. These processes also look at the various regulatory regimes within which the production of buildings lies. This allows the student to explore ‘multidisciplinary overlaps’ and begin to articulate for herself areas of further interest and research.

The Study Trip

The Fourth Year Study trip explores the role of architecture within complex urban systems. These include regulatory and legislative regimes, environmental and ecological systems, along with social, political and economic systems. Locations for the study trip are decided on the basis of trying to understand the forces that shape the rapidly growing tier two and tier three cities of the country. These cities are burgeoning out of control, often putting a great deal of stress upon their older fabrics and older environmental systems as they grow uncontrolled outwards devastating the hinterland. The study tries to unpack some of these forces and arrive upon strategies of intervention both at a macro and at a micro scale.

Architectural Theory

Courses: Architectural Theory, Professional Practice

The Fourth Year course intends to expose students to the ways in which modern architecture found its ground in the situated practices and modernities that emerged outside of Europe and America. It will focus on the history and sources of practices that emerge in India, their critical positioning and languages. The course serves as an introduction to the semester of professional practice and works in tandem with the professional practice course- which engages students in a study or survey of contemporary practices in India.

Humanities Courses

Courses: Research Methods

The Research Methods course for the 4th year of Bachelor of Architecture program will attempt to train students in pre-thesis research methodologies, with the final aim of identifying a clear area of concern and a precisely articulated synopsis for their thesis projects which they will pursue in their 5th year, with their respective guides. The module will introduce students to strategies of architectural research, after strengthening basic concepts of the methods of inquiry such as making and countering arguments, nature of evidence, using images as arguments, etc. The module will also equip the students to systematically reflect upon their experiences, and organize facts and ideas for their ongoing work and for future use.

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Semester 7

Scheme of Teaching and Examinations

Scheme of Teaching and Examinations
Bachelor of Architecture (B. Arch.)

Semester VII

	Semester VII Exam conducted by college	Teaching Scheme		Credits		
Sub. No.	COURSES	Lecture	Studio	Theory	Studio	Total
BARC 701	Architectural Design Studio 7		8		8	8
BARC 702	Allied Design 7	2	2	2	2	4
BARC 703	Architectural Building Construction 7	3	3 classes of technology studio	3	1	4
BARC 704	Theory and Design of Structures 7	2		2	1	3
BARC 708	Architectural Building Services 5	2		2	1	3
BARC 707	Architectural Representation & Detailing 7	2	3	2	3	5
BARC 710	Professional Practice 1	3		3		3
BARP 720	College projects 7		3		3	3
BARE 721	Elective 7		3		3	3
	Total	14	22	14	22	36

	Semester V II Exam conducted by college	Examination Scheme			
Sub. No.	COURSES	Theory (paper)	Internal	External viva	Total
BARC 701	Architectural Design Studio 7		100	100	200
BARC 702	Allied Design 7		100		100
BARC 703	Architectural Building Construction 7	50	50		100
BARC 704	Theory and Design of Structures 7		100		100
BARC 708	Architectural Building Services 5	50	50		100
BARC 707	Architectural Representation & Detailing 7		100	100	200
BARC 710	Professional Practice 1	50	50		100
BARP 720	College projects 7		100		100
BARE 721	Elective 7		100		100
	Total	150	750	200	1100

Semester 7

Semester 7

Time-Table

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
8.00 - 8.50	**Urban Theory (College Project) + ALLIED**		**Architectural Design**		**Theory of Structures**		**Architectural Building Construction**		**Architectural Design**			
	BARP 720	3 CP+ 1 ALLIED	BARC 701	*4 OF 8*	*BARC 704*	*3 TOS*	*BARC 703*	*4*	BARC 701	*4 OF 8*		
8.50 - 9.40	HUSSAIN	SHWETA										
	PARUL		SAMARTH	SONAL	RAJITHA	NEERAJ	VIKRAM	RAJ	ANEERUDHA	SONAL		
9.40 - 10.30			MANISHA	SHANTANU	KUMARAGURU		**SHHREY**	DEVESH	MANISHA	SHANTANU		
			KALPIT	ABHINAV			SANDHYA		KALPIT	ABHINAV		
10.30 - 11.20			ROHIT	GEORGE					ROHIT	GEORGE		
			TA- RESHMA, RIYA	SHIRISH					TA- PRANAY, DARSHIK	SHIRISH		
11.20 - 12.00												
12.00-12.50	**Architectural Building Services**		**Allied Design**				**Architectural Representation and Detailing**		**Professional Practice**			
	barc 708	*3*	*BARC 702, BARC 707*	*3*			*BARC 707*	*3 OF 5*	*BARC 710*	*3*		
12.50 - 1.20												
1.20 - 2.10			SHIRISH	KALPIT	**Architectural Representation and Detailing**		VIKRAM	RAJ				
	SANJANA	KIMAYA	SONAL	GEORGE	*BARC 707*	*2 OF 5*	SHREY	DEVESH	MAMTA			
2.10 - 3.00			ROHIT	SHANTANU	VIKRAM	RAJ	NEERAJ	PARTH				
	MINAL	DURVESH	MANNISHA	SAMARTH	SHREY	DEVESH						

BARC 701						
	COURSE NAME	ARCHITECTURE DESIGN- Module1	SEMESTER	Sem 7	CREDITS	-
	FACULTY	SHIRISH JOSHI, SONAL SUNDARARAJAN, SAMARTH DAS, GEORGE JACOB.	SESSIONAL MARKS	Internal- 300, External- 300	SCHEME OF EXAMINATION	STUDIO PERFORMANCE / PRESENTATIONS
	TIME	TUESDAY & FRIDAY - 8:00 TO 11:20	TEACHING HOURS	3 HRS 20MIN.	TIME REQUIRED OUTSIDE OF CLASS	-

UNIVERSITY COURSE DESCRIPTION	ARCHITECTURE DESIGN
PEDAGOGIC INTENT	Pedagogic Intent of the studio is to equip the students with the fundamental tools of design so as to allow them to identify, program and place their architectures within the larger urban field. And in addition expose them to different modes of practices, their methodologies and beliefs.
BRIEF & METHODOLOGY	Unlocking the Urban: *The city is architecture's primal scene – Michael Sorkin* According to the 2011 census report, 30% of the population of the country lives in urban areas. This figure continues to grow, with the rate of increase being greater in the 2nd tier and 3rd tier cities. While this growth has created peculiar urban conditions in these towns, the tier one cities are also transforming. The last two decades have seen a range of urban renewal programs being set up by the policy makers and central, state as well as local governments. These transformations are in the areas of urban infrastructure, public amenities and services, health and education, housing delivery, livelihood provision, slum free cities, pollution control and stricter environmental norms, built heritage and conservation, amongst many others. On the other hand our cities are also continually being shaped from the bottom up. With the everyday lives and accretions that transform the city over a period of time. These changes are small and almost always incremental and require a longer period of time to generate notable impact. These impacts are also sometimes seen in forms of resistances to the various renewal programs in the city. The fourth year studio program places architecture at the receiving end of this urban dialectic. Architecture here is not seen as a building with in a plot boundary, but is instead seen as an active participant in the larger urban field. Architecture and the building here have a greater role to play than just satisfying the function for which it is built. The studio

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1		4-Jun-19	Study Trip		
		7-Jun-19	Study Trip		
week 2		11-Jun-19	Study Trip		
		14-Jun-19	Colloquium		
week 3		18-Jun-19	Group discussions on urban intent and strategic transformative interventions.		
		21-Jun-19			
week 4		25-Jun-19	Studio sessions developing programme and diagrams for the the interventions.		
		28-Jun-19			
week 5		2-Jul-19	Studio sessions developing individual responses.		
		5-Jul-19			
week 6		9-Jul-19	JURY	10%	maps, drawings, photo, digital presentation
		12-Jul-19			
week 7		16-Jul-19	MASTER PLAN ESQUISSE- Lecture-Master plan ideasTesting the individual responses to the urban intents. Group work sessions.		
		19-Jul-19			
week 8		23-Jul-19	Individual project resolution		
		26-Jul-19			
week 9		30-Jul-19	JURY- Master plans and individual strategy	10%	1)Ecology Study- study and analysis, 2)Intervention Site Delineation- site details
		2-Aug-19	Lecture : Architecture as Urban Design		
week 10		6-Aug-19	Building Resolution - Infrastructure and Services.		
		9-Aug-19			
week 11		13-Aug-19			
		16-Aug-19			
week 12		20-Aug-19	JURY	20%	
		23-Aug-19			

BARC 701

	COURSE NAME	ARCHITECTURE DESIGN- Module1	SEMESTER	Sem 7	CREDITS	-
	FACULTY	SHIRISH JOSHI, SONAL SUNDARARAJAN, SAMARTH DAS, GEORGE JACOB.	SESSIONAL MARKS	Internal- 300, External- 300	SCHEME OF EXAMINATION	STUDIO PERFORMANCE / PRESENTATIONS
	TIME	TUESDAY & FRIDAY - 8:00 TO 11:20	TEACHING HOURS	3 HRS 20MIN.	TIME REQUIRED OUTSIDE OF CLASS	-

week 13	27-Aug-19	Lecture- Representation. Architecture as urban design.		site plan at 1:1000, site model at 1:500, architectural
	30-Aug-19	Desk Crits		
week 14	3-Sep-19	Desk Crits		
	6-Jul-19	Desk Crits		
week 15	10-Sep-19	PREFINAL JURY	30%	
	13-Sep-19	Desk Crits		
week 16	17-Sep-19	Desk Crits		
	20-Sep-19	Working week		
week 17	24-Sep-19	Working week		design intents and arguments, site diagramming at 1:1000 / 1:2000
	27-Sep-19	FINAL JURY	30%	
week 18				
week 19				

EVALUATION CRITERIA	Reviews will be used as marking stages so will studio discussions
LEARNING OUTCOMES	mapping – kevin lynch, narrative mapping – people called mumbai, landscape mapping), 2. to develop a catalogue of structural vocabulary that resonates the design language as imagined, 3. to identify case studies that are suitable and accurate to projects at different stages of design progress. 4. to compile one portfolio that represents all studio processes and finished design
READING LIST	Design of Cities, In the name of Housing, Self-sufficient City, Geo Logics, Floor Plan manual, Housing without houses, Innovative public housing, Town Spaces, The city shaped, Project Zagreb

CO-PO mapped syllabi of B.Arch Course 2019-22 - *Architecture Design Studio VII*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architecture Design Studio VII
Course Code: BARC 701 **Sem 7** **Year 2019-20**

KRVIA Course Code: 7ADS088

Course Objectives:

Pedagogic Intent of the studio is to equip the students with the fundamental tools of design so as to allow them to identify, program and place their architectures within the larger urban field. And in addition, expose them to different modes of practices, their methodologies and beliefs.

Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines, Ethics based etc.)

Course Outcome (Co)	Description
CO1	To expose students to complex urban conditions which act as determinants to their design proposition.
CO2	To train students in studying, analyzing, and factoring-in the complexities of the city, which informs design development.
CO3	To train students in building a nuanced design proposition for a mixed-use project, with a strong housing component.
CO4	To train students in executing a well-developed design proposition – with drawings, models, and an informed position.

Rubrics:

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	Subject:	Subject Code	University Subject Code	Sessional Marks:	Exercise 01 & 02: Marks out of	Credits	Date of submission		
FOURTH YEAR – SEM 7	Architecture Design Studio VII		BARC 701	200		8			
Exercise: Title	Detailed Design Proposition								
Exercise Note / Task	To develop a detailed design proposition based on the urban study.								
Assessment			Outstanding	Excellent	Very Good	Good	Fair	Satisfactory	Fail
Grade	O++	O+	O	A	B	C	D	E	F
Percentage	90% and above	80%	79% - 75%	74% - 70%	69% - 65%	64% - 60%	59% -55%	54% - 50%	49% - 40%
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
O ++	Extremely articulate and well-developed inquiry and design proposition.								
O+	Similar to O+ except the level of articulation and depth of proposition is lesser.								
O	Well-articulated and reasonably well-developed design proposition.								
A	Well-articulated and well-developed proposition, except for loopholes and half-baked ideas.								
B	Similar to A except the loopholes and drawbacks are more pronounced.								
C	Average level of articulation and proposition.								
D	Poor level of articulation and proposition.								
E	Very poor level of articulation and proposition. Just passable.								
F	Highly undeveloped project. Not worthy of passing.								

COPO Mapping Setup for Sem 7

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To expose students to complex urban conditions which act as determinants to their design proposition.	3	3	3	2	3	3	2	2
CO2	To train students in studying, analyzing, and factoring-in the complexities of the city, which informs design development.	3	3	3	2	3	3	2	2
CO3	To train students in building a nuanced design proposition for a mixed-use project, with a strong housing component.	3	3	3	2	2	2	3	1
CO4	To train students in executing a well-developed design proposition – with drawings, models, and an informed position.	3	3	3	2	1	2	3	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARP 720 + BARC 702, BARC 707	**COURSE NAME**	College Projects (Urban Theory) + Allied (Urban Studio)	**SEMESTER**	**7**	**CREDITS**	3 + 1 (Allied)
	FACULTY	Hussain, Shweta and Parul; Shirish Joshi, Sonal Sundararajan, Samarth Das, George Jacob, Parul Jain	**SESSIONAL MARKS**	**100**	**SCHEME OF EXAMINATION**	**Internal**
	TIME	Monday, 8:00 - 11:20 am; Tuesday 12:00 pm to 12:50 pm 1:20 pm to 3:00 pm	**TEACHING HOURS**		**TIME REQUIRED OUTSIDE OF CLASS**	

BARP 720	**COURSE NAME**	College Projects	**SEMESTER**	**7**	**CREDITS**	3
	FACULTY	Hussain, Shweta and Parul;	**SESSIONAL MARKS**	**100**	**SCHEME OF EXAMINATION**	**Internal**
	TIME	Monday, 8:00 - 11:20 am;	**TEACHING HOURS**		**TIME REQUIRED OUTSIDE OF CLASS**	

UNIVERSITY COURSE DESCRIPTION	College Projects
PEDAGOGIC INTENT	The fourth year Urban Theory course intends to introduce students to some significant conceptions of cities, urban life and urban experience. Each class will introduce a theoretical paradigm or perspective and discuss the ideas through the writings of its key contributors . The intent of this course is to construct a conceptual vocabulary and provide students with the theoretical resources to comprehend contemporary urban society.
METHODOLOGY	Every class will involve a 'thesis' and its progenitor(s) and proponents. A few short passages will be read / discussed in class, and three broad directions will be pursued : (1) The origins of the framework, the key thinkers and important contributions; (2) what such a perspective / framework enables, empowers or entails and (3) the critical perspectives that have emerged in response to it

SCHEDULE	**DAY**	**DATE**	**TEACHING CONTENT OF THE DAY**	**MARKING DISTRIBUTION**	**ASSIGNMENT/ DELIVERABLE**
week 1	Monday	17th June 2019	Introduction: The city and urban personality : Georg Simmel, Louis Wirth, Richard Sennett		
week 2	Monday	24th June 2019	The Urban Revolution – Gordan Chide, Henri Lefebvre, Niel Brenner		
week 3	Monday	1st July 2019	Class, Power and the City – Fredrick Engles, Manuel Castells, Ruth Glass, Niel Smith, Mike		
week 4	Monday	8th July 2019	The Colonial City – Anthony King, Jyoti Hosagrahar		
week 5	Monday	15th July 2019	The Rebel City – David Harvey, Faranak Miraftab		
week 6	Monday	22nd July 2019	Health care centre – Flying Elephant, Bharat Bhavan		
week 7	Monday	20th July 2018	The Radiant City – Le Corbusier, James Holston, Teresa Calderia		
week 8	Monday	29th July 2019	Social Life of Cities – Jane Jacobs, William Whyte, Paul & Percival Goodman		
week 9	Monday	5th August 2019	The City Region – Patrick Geddes, Luis Mumford		
week 10	Monday	12th August 2019	The Just City – Susan Feinstein, Peter Marcuse		
week 11	Monday	19th August 2019	The Autonomous City – John Turner, Colin Ward, Christopher Alexander, Sherry Arnstein		
week 12	Monday	26th August 2019	The Naked City – Guy Deboard, Raoul Vanegiem		
week 13	Monday	2nd September 2019	The Network City – Barry Wellman, Manuel Castellsj		
week 14	Monday	9th September 2019	The Global City – Saskia Sassen, Ven Kempen		
week 15	Monday	16th September 2019	Ganesh Chaturthi break		
week 16	Monday	23rd September 2019	The Southern City – Ananya Roy, Solomon Benjamin, Abdulmalik Simone		
week 17	Monday	30th September 2019	The Ordinary City – Jennifer Robinson, Simone		

LEARNING OUTCOMES	Students will be able to articulate the process of research, report their findings and conclusions with reference to existing literature that culminates in their thesis volumes

BARC 702, BARC 707	**COURSE NAME**	Allied Design (Urban Design Studio)	**SEMESTER**	**7**	**CREDITS**	1
	FACULTY	Shirish Joshi, Sonal Sundararajan, Samarth Das, George Jacob, Parul Jain	**SESSIONAL MARKS**	**100**	**SCHEME OF EXAMINATION**	**Internal**
	TIME	Tuesday 12:00 pm to 12:50 pm. 1:20 pm to 3:00 pm	**TEACHING HOURS**		**TIME REQUIRED OUTSIDE OF CLASS**	

PEDAGOGIC INTENT	IDEA . CITY . FORM is the intent of the course to aid in the reading of city forms, intorduction of urban systems and understanding urban history and ideas that manifest city structure.
METHODOLOGY	The course is imagined through three methods; first is the set of four seminars around the themes of mobility and movement, work and labor, ecology and environment, history and heritage. The second method is conducting city walks exploring the four themes across the city of Mumbai. The third method is a series of lecture presentation allowing the students to be exposed to the various practices and case studies of projects that look architecture in the urban realm.

SCHEDULE	**DAY**	**DATE**	**TEACHING CONTENT OF THE DAY**	**MARKING DISTRIBUTION**	**ASSIGNMENT/ DELIVERABLE**
week 1	Monday	4th June 2019	Study Trip		
week 2	Monday	11th June 2019	Study Trip		
week 3	Monday	18th June 2019	Introduction to Four themes		
week 4	Monday	25th June 2019	Lecture: Introducing work / labour, movement / mobility, ecology / environment and history / heritage		
week 5	Monday	2nd July 2019	City Walk: Transect 1: Ecology Transect		
week 6	Monday	9th July 2019	Seminar: Idea/City/Form		
week 7	Monday	16th July 2019	Lecture Presentations		
week 8	Monday	23rd July 2019	City Walk: Transect 2: Mobility and Labor:		
week 9	Monday	30th July 2019	Lecture Presentations		
week 10	Monday	6th August 2019	City Walk: Transect 3 : Malabar Hill to Bhaucha Dhaka		
week 11	Monday	13th August 2019	Seminar: Idea/City/Form		
week 12	Monday	20th August 2019	Discussion for Final Seminar		
week 13	Monday	27th August 2019	Seminar: Idea/City/Form		
week 14	Monday	3rd September 2019	Mid-Term Break		
week 15	Monday	10th September 2019	Master Plan Discussion		
week 16	Monday	17th September 2019	Master Plan Discussion		

LEARNING OUTCOMES	1. to read, analyse and form representations of cities in the indian context. 2. Working, framing question in the collective mode.

CO-PO mapped syllabi of B.Arch Course 2019-2020_College Projects 7 +Allied Design

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: College Projects 7 **Sem: 7** **Fourth Year**

Course 1: College Projects (Urban Theory) **Sem: 7** **Fourth Year**

Course Objectives:

- To construct a conceptual vocabulary
- To understand theoretical resources in order to comprehend contemporary urban society

Course 2: Allied Design (Urban Design Studio) **Sem: 7** **Fourth Year**

Course Objectives:

- To aid in the reading of city forms
- To introduce urban systems and
- To understand urban history and ideas that manifest city structure

Course Outcomes (CO): (Combined Course outcomes for Urban Theory and Urban Design Studio)

1. Understanding theoretical resources to comprehend cities

2. Critique and articulate through writing

3. Understanding the various perspectives on analysing a city

4. Reading, analyzing and forming representations of cities

Rubrics 1 (Urban Theory):

Year of Assessment: 2019-20	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks: max 50**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
Fourth Year - Sem 7	**College Projects 7 (Urban Theory)**		**BARP 720**	**100**	**100**	**3 +1 (Allied Design)**			
Exercise: Title	Write a theme discussed in class								
Exercise Note / Task	Acquaintence with some key concepts and thinkers in urban theory								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54 % - 50 %**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Writing	1) Extremely articulate in framing the area for inquiry. 2) Very clear structure for presentation. 3) Well researched	1) Very articulate in framing the area for inquiry. 2) Clear structure for presentation. 3) Well researched	1)Clear and Articulate in framing the area for inquiry. 2) Well researched structure for presentation.	1) There is clarity in the area of inquiry 2) Research and structure for presentation is fairly good.	1) The area of inquiry is fairly good 2) Research and structure for presentation can be better.	1) The area of inquiry is good 2) Research and structure for presentation is fair.	1) There is clarity in the area of inquiry 2) Research and structure for presentation is found lacking	1)There is potential for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Non submission
Participation in Studio	Attends less than 95% of total classes	Attends less than 90% of total classes	Attends less than 85 % of total classes	Attends less than 75 % of total classes	Attends less than 70 % of total classes	Attends less than 65 % of total classes	Attends less than 60 % of total classes	Attends less than 55 % of total classes	Attends less than 50 % of total classes

Rubrics 2 (Urban Design Studio):

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks: max 100**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
FOURTH YEAR - SEM 7	**Allied Design (Urban Design Studio)**		**BARC 702, BARC 707**	**100**	**80+20 (from Urban Theory)**	**3 of 4 (1 to CP)**			
Exercise: Title	Create an alternate Master Plan to the Hyderabad design studio								
Exercise Note / Task	To acclimatize students to read the city and create an analysis								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Critique to the Master Plan	1) Extremely articulate in framing the area for inquiry. 2) Very clear structure for presentation. 3) Well researched	1) Very articulate in framing the area for inquiry. 2) Clear structure for presentation	1)Clear and Articulate in framing the area for inquiry. 2) Well researched structure for presentation	1) There is clarity in the area of inquiry 2) Research and structure for presentation is fairly	1) The area of inquiry is fairly good 2) Research and structure for presentation can be better.	1) The area of inquiry is good 2) Research and structure for presentation is fair.	1) There is clarity in the area of inquiry 2) Research and structure for presentation is found	1)There is potential for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Non submission
Participation in the studio	Attends less than 95% of total classes	Attends less than 90% of	Attends less than 85 % of total	Attends less than 75 % of total	Attends less than 70 % of total	Attends less than 65 % of total	Attends less than 60 % of	Attends less than 55 % of total classes	Attends less than 50 % of total

COPO Mapping Setup for Sem 7

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	Understanding theoretical resources to comprehend cities	3	2	2	2	1	1	2	1
CO2	Critique and articulate through writing	2	1	0	1	0	2	2	2
CO3	Understanding the various perspectives on analysing a city	3	3	3	1	2	2	2	2
CO4	Reading, analyzing and forming representations of cities	3	3	2	1	1	2	2	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 703	COURSE NAME	Architectural Building Construction VII	SEMESTER	7	CREDITS	4
	FACULTY	Vikram, Jimmy, Devesh	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory
	TIME	8.00-8.50, 8.50-9.40 , 9.40-10.30, 10.30-11.20	TEACHING HOURS	16 sessions of 200 min each (45 hrs over the semester) including lectures and studio	TIME REQUIRED OUTSIDE OF CLASS	-

UNIVERSITY COURSE DESCRIPTION	*Deep foundations & Basements; Highrise Structures; Earthquake resistant structures*
PEDAGOGIC INTENT	*Having completed advanced floors and Building envelop systems in earlier years, this semester will focus on sub ground building, high-rise structures (sky scrapers) and earthquake resistant structures. Students are expected to acquire adequate knowledge to conceptualise design ideas given the said considerations and be prepared to communicate with professionals in the respective fields using appropriate terminology and building codes.*
METHOD	**Introduce and orient through lectures, Expose to sites and case studies and simulate exercises & resolve problems and designs.**

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
week 1	Thursday	8th June	Construction considering specific geography- challenges of materials, soil mechanics, seismic concerns & materiality (available material and response of construct to the given climate.		
week 2	Thursday	15th June	Review- Secondary data collation for Dehradun (Soil, topography sheets, climatic zones, Seismic zone and building codes)		
week 3	Thursday	22nd June	Study trip		
week 4	Thursday	29th June	Basement Raft foundation site visit	20	study/ analysis of geographical context and codes to be used.
week 5	Thursday	6th July	Monsoon Workshop		
week 6	Thursday	13th July	Basic concepts of earthquakes and earthquake resistant buildings 1		
week 7	Thursday	20th July	Basic concepts of earthquakes and earthquake		
week 8	Thursday	27th July	Test/ Exercise: earthquake resistant measures in load bearing structures; in RCC framed structures for Dehradun/ Mussourie/ Rishikesh	20	
week 9	Thursday	3rd Aug	High rise structures- Design considerations- planning, structure & skin, wind factors.		
week 10	Thursday	10th Aug	High rise structures- Guest lecture structural aspects		
week 11	Thursday	17th Aug	High rise structures- progress review- wire frame model of the structure of a case study of choice (pairs)	10	
week 12	Thursday	24th Aug	High rise structures- submission - wire frame model of the structure of a case study of choice (pairs)	20	
week 13	Thursday	31st Aug	Resolution of structural grid for Architectural Design	5	
week 14	Thursday	7th Sep	Resolution of foundations for Architectural Design	5	
week 15	Thursday	14th Sep	Resolution of skin/ wall sections for Architectural Design	5	
week 16	Thursday	21st Sep	Design resolution (Structural and constructional aspects)	15	

EVALUATION CRITERIA	*completion of given assignment; extent of exploration/ resolution; representation of resolved solutions.*
LEARNING OUTCOMES	*Student is expected to be oriented towards designing and resolving buildings in regions of seismic, topographical and geotechnical challenges. She/ he will also have an orientation of how a high rise building is planned and constructed.*
READING LIST	

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognise and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Construction

Course Code: BARC 703 **Sem** 7 **Fourth Year**

Course Objectives:

Having completed advanced floors and Building envelop systems in earlier years, this semester will focus on sub ground building, high-rise structures (sky scrapers) and earthquake resistant structures. Students are expected to acquire adequate knowledge to conceptualise design ideas given the said considerations and be prepared to communicate with professionals in the respective fields using appropriate terminology and building codes.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	**To understand concepts of deep foundations, high rises and be able to apply them.**
CO2	**To analyze critical concerns in high rise related to seismic, wind pressures and be able to design in accordance**
CO3	**To evaluate a building in terms of its technological advancements**

CO-PO mapping for a course of “UG program”									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	**To understand concepts of deep foundations, high rises and be able to apply them.**	2	2	2	1	0	3	3	3
CO2	**To analyze critical concerns in high rise related to seismic, wind pressures and be able to design in accordance**	2	2	2	0	3	2	2	1
CO3	**To evaluate a building in terms of its technological advancements**	2	2	2	1	3	2	2	1

Year of Assessment: 2019-20	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelor of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
FOURTH YEAR - SEM 7	**Architectural Building Construction**		**BARC 703**	**50**		**4**			
Exercise: Title	**Reports / documentation / Case studies**								
Exercise Note/ task	**To present the output of curated lectures with reports**								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Understanding and application of systems to design proposals		**Thorough understanding of explored interventions**	**Very good understanding of explored interventions**	**Good understanding of explored interventions**	**Fair understanding of explored interventions**	**Satisfactory understanding of explored interventions**	**Understanding of explored interventions**	**Below average understanding of explored interventions**	**Poor understanding of explored interventions**
Representation Technique and final submission		**Very well formatted presentation**	**Well formatted presentation**	**Clear formatted presentation**	**Very good formatted presentation**	**Good formatted presentation**	**Fairly formatted presentation**	**Barely managed to get clarity of intent**	**Less clarity in terms of ideas and processes**
Lenses of inquiry	Extremely complex, new and original level of inquiry	Extremely complex, and comparatively new and comparatively original level of inquiry	Complex, and original level of inquiry	Moderate and original level of inquiry	Moderate and continued from earlier study level of inquiry	Normal and continued from earlier study level of inquiry	Normal and low level of inquiry	Normal and poor level of inquiry	Absence of inquiry
Ability to demonstrate the Learnings from the Lecture	Extremely well-articulated	Very well-articulated	Well articulated	Articulated normally	Moderately Articulate	Less Articulate	Needs work	No Articulation	No Attempt

BARC 704	COURSE NAME	Theory and Design of Structures VII	SEMESTER	Seven	CREDITS	3
	FACULTY	Rajitha, Vikram	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Internal
	TIME	12.00 - 3:00	TEACHING HOURS	2.5	TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	Analysis and design of Retaining walls, Pile Foundations and Combined/eccentric Footings. Study of Earthquake Resistant Structures, understanding the know-how of its mechanisms. Theory and principles of structural design of tall buildings.
PEDAGOGIC INTENT	Developing and understanding of the kind of structural systems that are required for high rise towers. Starting from the foundations to understanding the structural skeleton of the building.
METHODOLOGY	Various mediums will be used to explain the concepts, like videos, presentation, hands-on experiments with material kits. Sharing experiences with class in accordance to one's learnings.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Monday	03-Jun-19	Introduction to Deep foundations. Study of Geotechnical investigation with respect to site.		
week 2	Monday	09-Jun-19	What are Pile foundations? Various types of it and its applicability with respect site conditions. Design and analysis of pre-cast and cast-in situ piles.		
week 3	Monday	17-Jun-19	Study Trip		
week 4	Monday	24-Jun-19	Holiday		
week 5	Monday	01-Jul-19	Discussion on pile design and its key aspects. What are the thumb rules for design approach? Illustrate it with an exercise.		
week 6	Monday	08-Jul-19	Design and analysis through solving numericals.		
week 7	Monday	15-Jul-19	Introduction to retaining walls and basement walls. Design and analysis through solving numericals.		
week 8	Monday	22-Jul-19	Continuation to the previous week's topic. Design and analysis through solving numericals.		
week 9	Monday	29-Jul-19	Understanding of combined footings like rectangular, strip, raft footings.		
week 10	Monday	05-Aug-19	Continuation to the previous week's topic. Design and analysis through solving numericals.		
week 11	Monday	12-Aug-19	Class exercise		
week 12	Monday	19-Aug-19	Introduction to tall structures. Theory and principles of structural design involved		
week 13	Monday	26-Aug-19	With emphasis on Wind forces and earthquake resistant mechanisms		
week 14	Monday	02-Sep-19	Hands on experiment with making ice-cream stick models of high rise towers.		
week 15	Monday	09-Sep-19	Class exercise		
week 16	Monday	16-Sep-19	Revision		

EVALUATION CRITERIA	basis for judgement of assignments and priority of parameters for evaluation if any
LEARNING OUTCOMES	
READING LIST	Strength of Materials by Rammruthum, Foundation Engineering by B.C. Punmia and P.C. Varghese

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Theory and Design of Structures 7*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Theory and Design of Structures 7
Course Code: BARC 704

Sem 7

Name - 4th Year

Course Objectives:

1. Analysis and design of Retaining walls, Pile Foundations and Combined/eccentric Footings.
2. Study of Earthquake Resistant Structures, understanding the know- how of its mechanisms.
3. Theory and principles of structural design of tall buildings.
4. Developing and understanding of the kind of structural systems that are required for high-rise towers. Starting from the foundations to understanding the structural skeleton of the building.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	In-depth understanding of the design and analysis of retaining walls, pile foundations and types of footings in the structural system
CO2	Introduction to tall structures. Theory and principles of structural design involve in designing high-rise buildings with an emphasis on wind forces and earthquake resistant mechanism
CO3	Introduction to retaining walls and basement walls and various types of footings used in structural system. Design and analysis through solving simple numerical
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
19-20 FOURTH YEAR Sem 07	Theory and Design of Structures 7	BARC 704	BARC 704	50	50	3			
Exercise: Title	Hands on experiment with making ice-cream stick models of high rise towers.								
Exercise Note / Task	Group Exercise								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Data Gathering/ monitoring and collating	All data to be collected from reliable sources with references included in the reports. Exceptional in showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected.	All data to be collected from reliable sources with references included in the reports. Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing excellent insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Most of the data to be collected from reliable sources with references included in the reports. Showcasing very good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing good insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Data collected is from adequate sources with most references included in the reports. Showcasing fair insights using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adaptation of tools and frameworks
Depth of Inquiry and ability to generate analytical drawings	Exceptional analytical drawings and clarity in explaining the concept and architectural design intent	Well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
In-depth understanding a theory and its application in the architectural field	Exceptional analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Very well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation that allows for the identified architectural expression.	Excellent curation using outstanding analytical drawings and clarity in explaining the concept, architectural design intent and the tectonic articulation.	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent.	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural design intent	Basic level of inquiry incoprorating the minimum requirements	Arbitary and Adhoc Inquiry
Representation Technique and final submission	Very well formatted presentation explaining	Well formatted presentation explaining concepts, process	Clear formatted presentation explaining concepts, process	Very good formatted presentation explaining	Good formatted presentation explaining concepts, process	Fairly formatted presentation explaining concepts, process	Barely managed to get clarity of intent and study using poor	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and

	concepts, process adopted using various tools and techniques	adopted using various tools and techniques	adopted using various tools and techniques	concepts, process adopted using various tools and techniques	adopted using various tools and techniques	adopted using various tools and techniques	diagrams and sketches		understanding of the subject
Ability to demonstrate the Learnings from the discussions conducted in class	Showcasing 100% ability to translate theoretical knowledge into practice	Showcasing 90% ability to translate theoretical knowledge into practice	Showcasing 80% ability to translate theoretical knowledge into practice	Showcasing 70% ability to translate theoretical knowledge into practice	Showcasing 65% ability to translate theoretical knowledge into practice	Showcasing 60% ability to translate theoretical knowledge into practice	Showcasing 55% ability to translate theoretical knowledge into practice	Showcasing 50% ability to translate theoretical knowledge into practice	Zero understanding and application of theoretical knowledge
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem 7

CO-PO mapping for a course of "Theory and Design of Structures 7"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	In-depth understanding of the design and analysis of retaining walls, pile foundations and types of footings in the structural system	2	3	0	0	1	1	1	0
CO2	Introduction to tall structures. Theory and principles of structural design involve in designing high-rise buildings with an emphasis on wind forces and earthquake resistant mechanism	1	2	2	3	2	2	2	2
CO3	Introduction to retaining walls and basement walls and various types of footings used in structural system. Design and analysis through solving simple numerical	0	2	3	1	1	3	2	1
CO4	Develop a perspective on the importance of technical knowledge and its application with respect to the role of an architect as a professional.	2	0	1	3	2	0	1	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 708					
COURSE NAME	Architectural Building Services IV	SEMESTER	7	CREDITS	3
FACULTY	Minal, Kimaya, and Durvesh	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Sessional Marking and one Theory paper - 50 marks
TIME	Monday (8.00 - 11.20)	TEACHING HOURS	52 hrs	TIME REQUIRED OUTSIDE OF CLASS	2 hours a week

UNIVERSITY COURSE DESCRIPTION	Natural ventilation • Heating of spaces – local and central heating • Heating equipments • Comfort conditions, temperature control, humidity control, air filtration, rate of ventilation. • Mechanical ventilation in buildings. • Plenum system, exhaust system, plenum and exhaust system. • Fans, blowers and air filters. • Thermal conductivity and insulation. • Air conditioning – refrigeration and air cycle. • Various systems of air conditioning - Unit, split, Package, Direct Expansion, Chilled water System. • Duck work and air conditioning layout, fittings and fixtures. • Hot water supply integrated with heating of spaces
PEDAGOGIC INTENT	The intent of the studio is to achieve comfort via simulated environments such as Mechanical ventilation and HVAC systems. Understanding of these advanced services and their integration in design process. Various systems are taught and the outcome expected is wise choosing of systems based on understanding the need of the people, building locality based on climate, and availability of natural ventilation.
TEACHING METHODS	Theory Lectures, Small Exercises, Case - studies, Site Visit.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	MON	04-Jun-19	FACULTY ONLY		
week 1	MON	10-Jun-19	INTRODUCTION and Lecture on Site Planning and Services (water supply and invert levels for drainage, sustainable strategies for building design		
week 2	MON	17-Jun-19	HVAC - laws of AC, referigeration cycle(briefly) and its components, and unit systems in AC such window, split, package		a case study assignment
week 3	MON	24-Jun-19	HVAC - central system - chilled water and direct expansion system, accessory spaces required for the systems, Video showing entire system working		Retaining walls, light and ventilation, Mechanical Ventilation drainage and precautions for flooding. STUDIO - design development and resolution
week 4	MON	01-Jul-19	A.C continue + Studio		Studio on basement - design development,
week 5	MON	08-Jul-19	Basement planning - space requirement, amenities such as ramps, parking, fire fighting requirements, structural system as an extension of building + AC case study		**PLANS, SECTIONS, SERVICE LAYOUT**
week 6	MON	15-Jul-19	Retaining walls, light and ventilation, Mechanical Ventilation drainage and precautions for flooding. STUDIO - design development and resolution + AC submission	10	A report Submission in A3 size
week 7	MON	22-Jul-19	Studio on basement + HVAC		
week 8	MON	29-Jul-19	Studio on basement + HVAC		Basement ducting submission
week 9		05-Aug-19	basement services submission	10	
weel 10		12-Aug-19	Calculation of Tonnage, HVAC studio and submission	10	PLANS, SECTIONS, AND DETAILS
week 11		19-Aug-19	Hot water systems - heater types, principles and working of systems, central systems and types, spaces required, solar heaters.		
week12		26-Aug-19	HVAC - heating of spaces - scale of heating, unit as well as central, integration of hot water supply and heating, heat recovery, and alternative technology such as solar and geothermal		
week 13		02-Sep-19	Revision and Prefinal Portfolio	10	PREFINAL PORTFOLIO SUBMISSION
Week 14		09-Sep-19	Studio		
Week 15		16-Sep-19	FINAL SUBMISSION	10	FINAL PORTFOLIO
Week 16		23-Sep-19	Marks Upgradation		
		01-Oct-19			

EVALUATION CRITERIA	The criteria for evaluation is basic understanding of services as an integral part of arcitecture and their importance for achieving not only basic comfort for human habitation but as a design strategy. Assignments are to evaluate this understanding in their application.
LEARNING OUTCOMES	1. The outcome expected is understanding of natural ventilation, orientation, and envelop of building and its role in reducing air conditioning loads. 2. Basements planning and Mechanical ventilation and detailed working layout of the same. 3. Various Air conditioning system, tonnage calculation and its impact both environmentally as well as costing. Airconditioning is calculated and represented through detailed drawings. 4. Heating of spaces as a part of HVAC and its integration with domestic hot water supply.
READING LIST	B 14 Mechanical and Electrical Systems in Buildings B 16 Mechanical and Electrical Systems in Construction and Architecture B 1290 Energy Conservation Standards: for building design, construction and operation. B 4542 Building Services:Electro Mechanical and Environmental Services B 1922 Mechanical Systems for Architects. B 2222 Building Energy Management Systems:an application to heating and control. B 2234 Air-Conditioning:a practical introduction. B 3294 Mechanical and Electrical Equipment for Buildings. B 3879 Advanced Building Systems: a technical guide for Architects and Engineers.

CO-PO mapped syllabi of B. Arch Course 2019-2020 – Architectural Building Services 5

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpret learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorize and conceptualize ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project.
6. To enable the student to observe, experience, analyze space, its physicality, and its associations through the body.
7. To enable the student to extract the abstract from the experiential and center it as the basis of design.
8. To enable the student to break the boundary between abstract thought and material realities.
9. To enable students to discover multiple methods and tools to develop their own process of learning.
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive ways of intervening as architects through critical thinking.
2. To enable students with design skills that can navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that can navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding of cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Services 5

Course Code: 708 Sem 7 Fourth Year

Course Objectives:

The Architectural Building Services course this semester intends to introduce the advanced and complex technological understanding of various building services in high rise buildings with the focus on achieving suitable indoor ambience. With an intent towards achieving green and regenerative architecture in terms of resource and energy management, this course enables students to integrate appropriate and efficient traditional as well as new thermal comfort strategies in their architectural design projects. The course expands and elaborates on the systems already taught in previous years to accord with the complexities of high-rise buildings through various case studies.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To enable students to understand the importance of thermal comfort and arrive at solutions by applying passive strategies.
CO2	To enable students to understand components and workability of various HVAC systems within a building and capability to choose right systems
CO3	To make students explore the integration of various infrastructural systems in high rises or large complex buildings and realize the relevance of services in architectural design, using a case study-based approach.

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelor of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
FOURTH YEAR - SEM 7	**Arch. Building services**		**BARC 708**	**50**		**3**	**Multiple**		
Exercise: Title	**Basement Planning and Hvac Systems for their project**								
Exercise Note/task	**Detailed drawings with plan, sections and details for basement as well as HVAC system**								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Understanding of systems and their integration with other systems as well as with space	1)Complete understanding of systems 2) its integration with other system 3) its hierarchy in planned space	1)Very good understanding of systems 2) its integration with others and its position in planned space.	Good understanding of systems and its integration and its position in planned space.	Fairly good understanding of systems and their integration and their position in planned space.	1)Understanding of a system is seen along with other systems 2) lacking spatial integration.	1)Lesser understanding of the system is seen along with other systems 2) lacking spatial integration.	1)Poor understanding of the system. 2)No understanding of integration with other systems.	Extremely poor understanding of the system.	Non-Submission
Representation Technique and final submission	Logical and semantic representation	Logical representation	Good representation in all aspect	Good representation in all aspect	Fairly represented in all aspect	The drawings could be understood	Representation needed clarification	Drawings not clear enough	Non-Submission
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

CO-PO Mapping

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To enable students to understand the importance of thermal comfort and arrive at solutions by applying passive strategies.	2	2	2	1	0	1	3	3
CO2	To enable students to understand components and workability of various HVAC systems within a building and capability to choose right systems	0	0	0	0	2	1	3	3
CO3	To make students explore the integration of various infrastructural systems in high rises or large complex buildings and realize the relevance of services in architectural design, using a case study-based approach.	2	2	2	0	2	1	3	3

BARC 707						
	COURSE NAME	ARD- 7	SEMESTER	VII	CREDITS	5 , 3+2 (Allied)
	FACULTY	Raj, Parth and Devesh	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	External Viva
	TIME	12.00-3.00	TEACHING HOURS	16 sessions of 200 min each (45 hrs over the semester) including lectures and studio	TIME REQUIRED OUTSIDE OF CLASS	
UNIVERSITY COURSE DESCRIPTION	Project Specifications and Building Byelaws and Approval Drawings.					
PEDAGOGIC INTENT	The course at KRVIA looks at statutory provision as a broader framework wherein the students are encouraged to learn and explore different ways of evaluating the project and the process involved in understanding the feasibility of the project before entering the design aspects. Further all the necessary guidelines and reference materials and the statutory provisions for creating a better living environments while being sensitive to the neighbouhood is being covered. Themes ranging from understanding development documents, fire safety, light & ventilation, infrastructure, construction processes etc. were studied and presented					
METHODOLOGY	Lectures; Mentoring; Studio Exercises					

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/ DELIVERABLE
			ribe the subject matter to be taught that	*% or marks for*	*tasks like reading,*
				assignments	*writing, research, etc with details*
week 1		13th June	Introduction to Regulations and approva		
week 2		20th June	Zoning and Reservations		
week 3		27th June	Access, Amenity open space and Layou		
week 4		4th July	Studio Class		To check approvability of their institution design taken up in 3rd year against DCPR 2034 and present in the form of a report
week 5		11th July	Floor Space Index, Transfer of developme	40	
week 6		18th July	General building requirements		
week 7		25th July	Parking and Fire regulations		
week 8		1st Aug	Studio Class		
week 9		8th Aug	Introduction to Municipal drawings & 1st		
week 10		15th Aug	Independence day		
week 11		22nd Aug	Studio Class	40	To make municipal drawings of the same building
week 12		29th Aug	Prefinal submissions		
week 13		5th Sept	Specifications		
week 14		12th Sept	Prefinal submissions - specifications	20	To provide specifications of a partg of the same building
week 15		19th Sept	Final submission		

EVALUATION CRITERIA	completion of given assignment; extent of exploration/ resolution; representation of resolved solutions.
LEARNING OUTCOMES	Student is expected be able to read Municipal byelaws and be able to adhere to them. She/ he will also have an orientation of how a high rise building is planned and constructed.
READING LIST	DCPR - 2034

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognise and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Representation and detailing VII

Course Code: BARC 707 **Sem** 7 **Fourth Year**

Course Objectives:

Develop skills of students in reading the DCR and understanding key concepts relating to approval of the project
Develop understanding of municipal drawings, their need and developing skills to draw and represent design in required formats Conversion of previously worked and resolved design into municipal drawings to understand FSI and other perspectives from the DCR Develop understanding of various materials, processes involved in construction and develop skill to write their specifications

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	**To understand bye laws and their application**
CO2	**To analyze critical concerns, loopholes and design in accordance**
CO3	**To create approval drawings in accordance with studios.**

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	**To understand bye laws and their application**	2	2	2	1	0	3	3	3
CO2	**To analyze critical concerns, loopholes and design in accordance**	2	2	2	0	3	2	2	1
CO3	**To create approval drawings in accordance with studios.**	2	2	2	1	3	2	2	1

Year of Assessment: 2023-2024	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelor of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
FOURTH YEAR - SEM 7	**Architectural representation and detailing**		**BARC 707**	**100**		**5**			
Exercise: Title	**Municipal drawings**								
Exercise Note/ task	**Create drawings in accordance with bye-laws**								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Understanding and application of bye laws		**Thorough understanding of explored interventions**	**Very good understanding of explored interventions**	**Good understanding of explored interventions**	**Fair understanding of explored interventions**	**Satisfactory understanding of explored interventions**	**Understanding of explored interventions**	**Below average understanding of explored interventions**	**Poor understanding of explored interventions**
Representation Technique and final submission		**Very well formatted presentation**	**Well formatted presentation**	**Clear formatted presentation**	**Very good formatted presentation**	**Good formatted presentation**	**Fairly formatted presentation**	**Barely managed to get clarity of intent**	**Less clarity in terms of ideas and processes**
Lenses of inquiry	Extremely complex, new and original level of inquiry	Extremely complex, and comparatively new and comparatively original level of inquiry	Complex, and original level of inquiry	Moderate and original level of inquiry	Moderate and continued from earlier study level of inquiry	Normal and continued from earlier study level of inquiry	Normal and low level of inquiry	Normal and poor level of inquiry	Absence of inquiry
Ability to demonstrate the Learnings from the Lecture	Extremely well-articulated	Very well-articulated	Well articulated	Articulated normally	Moderately Articulate	Less Articulate	Needs work	No Articulation	No Attempt

BARC 710					
BARC 710	Professional Practice	SEMESTER	VII	CREDITS	3
FACULTY	Mamta	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal: 50
TIME	8:00-10:30	TEACHING HOURS	2.5	TIME REQUIRED OUTSIDE OF CLASS	6 hours

UNIVERSITY COURSE DESCRIPTION	*Introduction to architectural profession, office, setup and administration, Partnership Act, tenders and contracts, Architects Act, Architectural Competitions, Copywright Act*
PEDAGOGIC INTENT	*Bill Hubbard Jr., in his book 'A Theory of Practice' offers the insight that a building needs to be seen in three different ways- as an instance of architectural order, as an embodiment of values about living, and as an instrument for bringing about results (Hubbard, 1995).* *The intent of the course is to look at the practice of architecture and the role of the architect through the following lenses:* *1) Practice of Theory* *2) Practice of Ethics* *3) Practice of Service* *The Professional Practice course for Semester VII looks at the role and responsibilities of the architect as a professional. While the Architects' Act of 1972 forms the legislative basis of the profession, there are many ways in which this role can be interpreted. The scope of work of an architect as envisaged in the list of Comprehensive Architectural Services sees the architect as a designer, a technical expert, a project manager and an advisor to the client regarding rules and regulations. With the increasing complexity of each of these roles, fields of specialization have come up within the practice. A wide range of practices exist in the profession which the students need to be made aware of. Each of these practices approach their role in a different way. The course aims to get students to explore this spectrum and start to envisage their own future in the profession.*
METHODOLOGY	**"Architecture has become an adaptable enterprise for a world that requires nimbleness, pragmatism, and no small amount of ingenuity" - Robert A. Ivy, FAIA.** **It aims to illustrate the legal, ethical and management concepts underlying the practice of architecture and give a critical orientation towards a career in architectural practice. The trajectory of practices over a couple of decades will be traced to demonstrate the same. Exploring connects between practices, academia and journalism will be discussed.** **The course is envisaged under these categories** **1. Ideation – The idea of the office, what defines the practice - Structure of offices, small to large.** **2. Feasibility – Analysis of market trends, discussing niche' practices eg. FLW** **Prototyping small scale practices** **Applying new product development principles to the practice of architecture** **3. Medici Effect – Innovation happens at intersection of disciplines and ideas** **The course will entail a series of lectures and presentations on key issues relating to the professional contexts of architectural practice, as well as examples of and strategies for traditional and other models of practice in preparation for the next stages of work experience and professional qualification**

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Friday	07-06-2019	***Introduction to the Architectural Profession - What the course entails, the skills imparted and the various avenues that one could opt for after gaduation***		
week 2	Friday	14-06-2019	**Colloquium**		
week 3	Friday	21-06-2019	***Introduction to the Architectural Profession - What the course entails, the skills imparted and the various avenues that one could opt for after gaduation***	*10*	*Essay on choice of practice*
week 4	Friday	05-07-2019	***Inception of professional bodies - History, background and intent. Architect's Registration Act 1972, COA - Duties and responsibilities***		
week 5	Friday	19-07-2019	***Copyright Act - Theory and practical inputs***		
week 6	Friday	02-08-2019	***Interviewing Practises***		
week 7	Friday	16-08-2019	***Architectural Competition - Types, rules and awards. External faculty input to provide insights into experiences of competitions.***		
week 8	Friday	30-08-2019	***Office - what defines the practice - Structure of offices, small to large. Heirarchy of staff, consultants, etc. Task allocation - Conceptual design, meetings, design development, records and other administrative aspects***	*40*	*Case study of various architectural pracrtises*
week 9	Friday	06-09-2019	***Partnership - Registration, rules and dissolution. Overview of various alliances like JV's, Consortiums and study of projects carried out under various collaborations***		
week 10	Friday		***Mid Term Break***		
week 11	Friday	20-09-2019	***Tenders - Types, Advantages and disadvantages. Tender notice, tender doscument, formats, etc. Opening and selection. Qualification criteria, bid capacity, freak rates, rate analysis, work order***		
week 12	Friday	04-10-2019	***Contracts - Types, contract documents. Various components. Practical inputs from redevelopment, conservation and other architectural project tenders.***		
week 13	Friday	18-10-2019	**Choice of practice: Architectural careers range across a wide spectrum, from government service to activism. Encounters with architects who engage in said practices can be arranged to give the students a look into the inner workings of the profession. Some possible examples of careers can be: Design firms, Liasoning firms, Development Finance, SRA, Government Agencies. The speakers can be asked to touch upon various aspects of their practice such as scope of work, necessary skill sets, financial models etc.**		

EVALUATION CRITERIA	*Evaluation will basedon how students are able to articulate themnselves, accuracy on framing clauses in contracts, conducting case studies to understand positions of ppracticeand their ideologies.*
LEARNING OUTCOMES	*Encourage students to become entrepreneurs and enable them to set out as the next generation of innovative architects*
READING LIST	Professional Practice by **Roshan Namavati**; Theory & Practice of Valuation by **Roshan Namavati**; Professional Practice in India – **Madhav Deobhakta** Architecture Student's Handbook of Professional Practice - By American Institute of Architects Theory of Practice and Practice of Theory by **Chandavarkar** **Medici Effect:Frans Johansson** The **The** **Shade: Charles Correa** **A Place in the** **India: Histories of Practice in Mumbai and Delhi** **Women Architects in**

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Professional Practice 1*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Professional Practice 1
Course Code: BARC 710 **Sem 7** **Fourth Year**

Course Objectives:

The course intends to encourage students to examine the ethical, legal and technical aspects of becoming entrepreneurs. The course aims to enable them to set out as the next generation of innovative architects and engage with the profession in myriad contemporary forms available today.

Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines, Ethics based etc)

Course Outcome (Co)	Description
CO1	**Preparing students to understand the building of relationships between the legal and technical framework of setting up practice and the actual production of space.**
CO2	**Prepare the student to examine and critique the ethical frameworks of practice**
CO3	**To evaluate various forms in which architecture practice can be manifested to contribute to the society at large**

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**University Subject Code**		**Sessional Marks: 50**	**Exercise 01 Marks :50**	**Credits 3**	**Date of submission**		
19-20 FOURTH YEAR - SEM 07	**Professional Practice 1**	**BARC 710**							
Exercise: Title	Exploring ethical, technical and legal frameworks of practice								
Exercise Note / Task	Conduct interviews with different practitioners in and around the city (or virtually), understanding forms in which multi-modal practices can exist								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Lenses of inquiry	Extremely complex, new and original level of inquiry	Extremely complex, and comparatively new and comparatively original level of inquiry	Complex, and original level of inquiry	Moderate and original level of inquiry	Moderate and continued from earlier study level of inquiry	Normal and continued from earlier study level of inquiry	Normal and low level of inquiry	Normal and poor level of inquiry	Absence of inquiry
Ability to demonstrate the Learnings from the Studio	Extremely well-articulated	Very well-articulated	Well articulated	Articulated normally	Moderately Articulate	Less Articulate	Needs work	No Articulation	No Attempt
Attendance, time management and participation in Studio	100 % attendance, working and high level of interaction in the studio	80 % attendance, working and high level of interaction in the studio	75 % attendance, working and high level of interaction in the studio	70 % attendance, working and high level of interaction in the studio	65 % attendance, working and good level of interaction in the studio	60 % attendance, working and good level of interaction in the studio	55 % attendance, working and good level of interaction in the studio	50 % attendance, not working and low level of interaction in the studio	less than 50% attendance, not working and no level of interaction in the studio

COPO Mapping Setup for Sem 7

CO-PO mapping for a course of "UG Program"									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO4	PO5	PO6	PO7	PO8
CO1	Preparing students to understand the building of relationships between the legal and technical framework of setting up practice and the actual production of space	2	1	1	3	3	2	2	3
CO2	Prepare the student to examine and critique the ethical frameworks of practice	3	1	1	3	3	2	2	3
CO3	To understand various forms in which architecture practice can be manifested to contribute to the society at large	1	1	1	1	3	3	3	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARP 720 + BARC 702, BARC 707						
	COURSE NAME	College Projects (Urban Theory) + Allied (Urban Studio)	SEMESTER	7	CREDITS	3 + 1 (Allied)
	FACULTY	Hussain, Shweta and Parul; Shirish Joshi, Sonal Sundararajan, Samarth Das, George Jacob, Parul Jain	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Internal
	TIME	Monday, 8:00 - 11:20 am; Tuesday 12:00 pm to 12:50 pm 1:20 pm to 3:00 pm	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	

BARP 720						
	COURSE NAME	College Projects	SEMESTER	7	CREDITS	3
	FACULTY	Hussain, Shweta and Parul;	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Internal
	TIME	Monday, 8:00 - 11:20 am;	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	College Projects
PEDAGOGIC INTENT	The fourth year Urban Theory course intends to introduce students to some significant conceptions of cities, urban life and urban experience. Each class will introduce a theoretical paradigm or perspective and discuss the ideas through the writings of its key contributors . The intent of this course is to construct a conceptual vocabulary and provide students with the theoretical resources to comprehend contemporary urban society.
METHODOLOGY	Every class will involve a 'thesis' and its progenitor(s) and proponents. A few short passages will be read / discussed in class, and three broad directions will be pursued : (1) The origins of the framework, the key thinkers and important contributions; (2) what such a perspective / framework enables, empowers or entails and (3) the critical perspectives that have emerged in response to it

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/ DELIVERABLE
week 1	Monday	17th June 2019	Introduction: The city and urban personality : Georg Simmel, Louis Wirth, Richard Sennett		
week 2	Monday	24th June 2019	The Urban Revolution – Gordan Chide, Henri Lefebvre, Niel Brenner		
week 3	Monday	1st July 2019	Class, Power and the City – Fredrick Engles, Manuel Castells, Ruth Glass, Niel Smith, Mike		
week 4	Monday	8th July 2019	The Colonial City – Anthony King, Jyoti Hosagrahar		
week 5	Monday	15th July 2019	The Rebel City – David Harvey, Faranak Miraftab		
week 6	Monday	22nd July 2019	Health care centre – Flying Elephant, Bharat Bhavan		
week 7	Monday	20th July 2018	The Radiant City – Le Corbusier, James Holston, Teresa Calderia		
week 8	Monday	29th July 2019	Social Life of Cities – Jane Jacobs, William Whyte, Paul & Percival Goodman		
week 9	Monday	5th August 2019	The City Region – Patrick Geddes, Luis Mumford		
week 10	Monday	12th August 2019	The Just City – Susan Feinstein, Peter Marcuse		
week 11	Monday	19th August 2019	The Autonomous City – John Turner, Colin Ward, Christopher Alexander, Sherry Arnstein		
week 12	Monday	26th August 2019	The Naked City – Guy Deboard, Raoul Vanegiem		
week 13	Monday	2nd September 2019	The Network City – Barry Wellman, Manuel Castellsj		
week 14	Monday	9th September 2019	The Global City – Saskia Sassen, Ven Kempen		
week 15	Monday	16th September 2019	Ganesh Chaturthi break		
week 16	Monday	23rd September 2019	The Southern City – Ananya Roy, Solomon Benjamin, Abdulmalik Simone		
week 17	Monday	30th September 2019	The Ordinary City – Jennifer Robinson, Simone		
LEARNING OUTCOMES	Students will be able to articulate the process of research, report their findings and conclusions with reference to existing literature that culminates in their thesis volumes				

BARC 702, BARC 707						
	COURSE NAME	Allied Design (Urban Design Studio)	SEMESTER	7	CREDITS	1
	FACULTY	Shirish Joshi, Sonal Sundararajan, Samarth Das, George Jacob, Parul Jain	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Internal
	TIME	Tuesday 12:00 pm to 12:50 pm. 1:20 pm to 3:00 pm	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	

PEDAGOGIC INTENT	IDEA . CITY . FORM is the intent of the course to aid in the reading of city forms, intorduction of urban systems and understanding urban history and ideas that manifest city structure.
METHODOLOGY	The course is imagined through three methods; first is the set of four seminars around the themes of mobility and movement, work and labor, ecology and environment, history and heritage. The second method is conducting city walks exploring the four themes across the city of Mumbai. The third method is a series of lecture presentation allowing the students to be exposed to the various practices and case studies of projects that look architecture in the urban realm.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/ DELIVERABLE
week 1	Monday	4th June 2019	Study Trip		
week 2	Monday	11th June 2019	Study Trip		
week 3	Monday	18th June 2019	Introduction to Four themes		
week 4	Monday	25th June 2019	Lecture: Introducing work / labour, movement / mobility, ecology / environment and history / heritage		
week 5	Monday	2nd July 2019	City Walk: Transect 1: Ecology Transect		
week 6	Monday	9th July 2019	Seminar: Idea/City/Form		
week 7	Monday	16th July 2019	Lecture Presentations		
week 8	Monday	23rd July 2019	City Walk: Transect 2: Mobility and Labor:		
week 9	Monday	30th July 2019	Lecture Presentations		
week 10	Monday	6th August 2019	City Walk: Transect 3 : Malabar Hill to Bhaucha Dhaka		
week 11	Monday	13th August 2019	Seminar: Idea/City/Form		
week 12	Monday	20th August 2019	Discussion for Final Seminar		
week 13	Monday	27th August 2019	Seminar: Idea/City/Form		
week 14	Monday	3rd September 2019	Mid-Term Break		
week 15	Monday	10th September 2019	Master Plan Discussion		
week 16	Monday	17th September 2019	Master Plan Discussion		
LEARNING OUTCOMES	1. to read, analyse and form representations of cities in the indian context. 2. Working, framing question in the collective mode.				

CO-PO mapped syllabi of B.Arch Course 2019-2020_College Projects 7 +Allied Design

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: College Projects 7 **Sem: 7** **Fourth Year**

Course 1: College Projects (Urban Theory) **Sem: 7** **Fourth Year**

Course Objectives:

- To construct a conceptual vocabulary
- To understand theoretical resources in order to comprehend contemporary urban society

Course 2: Allied Design (Urban Design Studio) **Sem: 7** **Fourth Year**

Course Objectives:

- To aid in the reading of city forms
- To introduce urban systems and
- To understand urban history and ideas that manifest city structure

Course Outcomes (CO): (Combined Course outcomes for Urban Theory and Urban Design Studio)

1. Understanding theoretical resources to comprehend cities
2. Critique and articulate through writing
3. Understanding the various perspectives on analysing a city
4. Reading, analyzing and forming representations of cities

Rubrics 1 (Urban Theory):

Year of Assessment: 2019-20	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks: max 50**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
Fourth Year - Sem 7	**College Projects 7 (Urban Theory)**		**BARP 720**	**100**	**100**	**3 +1 (Allied Design)**			
Exercise: Title	Write a theme discussed in class								
Exercise Note / Task	Acquaintence with some key concepts and thinkers in urban theory								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54 % - 50 %**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Writing	1) Extremely articulate in framing the area for inquiry. 2) Very clear structure for presentation. 3) Well researched	1) Very articulate in framing the area for inquiry. 2) Clear structure for presentation. 3) Well researched	1)Clear and Articulate in framing the area for inquiry. 2) Well researched structure for presentation.	1) There is clarity in the area of inquiry 2) Research and structure for presentation is fairly good.	1) The area of inquiry is fairly good 2) Research and structure for presentation can be better.	1) The area of inquiry is good 2) Research and structure for presentation is fair.	1) There is clarity in the area of inquiry 2) Research and structure for presentation is found lacking	1)There is potential for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Non submission
Participation in Studio	Attends less than 95% of total classes	Attends less than 90% of total classes	Attends less than 85 % of total classes	Attends less than 75 % of total classes	Attends less than 70 % of total classes	Attends less than 65 % of total classes	Attends less than 60 % of total classes	Attends less than 55 % of total classes	Attends less than 50 % of total classes

Rubrics 2 (Urban Design Studio):

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks: max 100**	**Exercise : Marks out of**	**Credits**	**Date of submission**		
FOURTH YEAR - SEM 7	**Allied Design (Urban Design Studio)**		**BARC 702, BARC 707**	**100**	**80+20 (from Urban Theory)**	**3 of 4 (1 to CP)**			
Exercise: Title	Create an alternate Master Plan to the Hyderabad design studio								
Exercise Note / Task	To acclimatize students to read the city and create an analysis								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Critique to the Master Plan	1) Extremely articulate in framing the area for inquiry. 2) Very clear structure for presentation. 3) Well researched	1) Very articulate in framing the area for inquiry. 2) Clear structure for presentation. 3) Well	1)Clear and Articulate in framing the area for inquiry. 2) Well researched structure for presentation.	1) There is clarity in the area of inquiry 2) Research and structure for presentation is fairly	1) The area of inquiry is fairly good 2) Research and structure for presentation can be better.	1) The area of inquiry is good 2) Research and structure for presentation is fair.	1) There is clarity in the area of inquiry 2) Research and structure for presentation is found	1)There is potential for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Non submission
Participation in the studio	Attends less than 95% of total classes	Attends less than 90% of total	Attends less than 85 % of total	Attends less than 75 % of total	Attends less than 70 % of total	Attends less than 65 % of total	Attends less than 60 % of total	Attends less than 55 % of total classes	Attends less than 50 % of total

COPO Mapping Setup for Sem 7

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	Understanding theoretical resources to comprehend cities	3	2	2	2	1	1	2	1
CO2	Critique and articulate through writing	2	1	0	1	0	2	2	2
CO3	Understanding the various perspectives on analysing a city	3	3	3	1	2	2	2	2
CO4	Reading, analyzing and forming representations of cities	3	3	2	1	1	2	2	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

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Fifth Year

Program Specific Objectives

1. To enable students to make decisions about the directions for their future practices
through reflexive thinking and research further to their learning in earlier 4 years.

2. To enable an intersection of architectural practice with the academic space where both the school and the students make choices based on their particular interest.

3. To bring into the academic space, explorations of particular interests in the city.

4. To continue to urge students to pursue their interest in systemic understanding of architecture as tectonic as well as environmental.

5. To explore complex built forms through integration with archetype resolutions.

6. To urge students to develop an ethical choice for practice in context to the role that architecture should take on, in relation to history, ecology and making a more fair world.

Fifth Year

Pedagogic Intent

Primary Dialectical Questions: Self - Other / Analytical - Intuitive / Individual - Collective / Object - System / Technical - Social / Architect - Architecture

The Fifth Year is seen as a threshold from where students make decisions about the directions for their future practices. Having just come back from an internship programme, they would have had some experience of working as practitioner that they will draw upon in shaping these decisions. As such the fifth year is space for reflexive thinking through research. Through the Design Dissertation process, the student is asked to consider their own position with respect to the world and the modes through which they would choose to practice. The courses allow for a space where the student is enabled to ask these questions.

Design Studios

Research Brief

Courses: Bridge Studio, Design Dissertation, Research Writing Course

The Design Studio in the 9th Semester is imagined as a 'Bridge' Studio. This is a space for exploration where the students can choose areas of interest depending on what the school is offering. The school can also decide on the kinds of Bridge studios offered. These bridges can be both from the world of the profession inwards into the school bringing in the academic space areas of new areas of exploration that could inform the academic space; but could also be particular areas of interest in the city that the school is interested in pursuing. Each of these studios would thus have a different emphasis and students could choose which of these they would like to participate in. The Bridge studio thus becomes a space for exploration for faculty and students.

The Technology and Representation Studios

Reflexive Questions

Courses: Technology Studio, Technology Lecture1, Technology Lecture 2

Having returned from the internship programme, the final year intent for the technology studios and lectures is that of reflexivity, specialization and research. Students are urged to pursue their research interest for understanding systems both Tectonic as well as Environmental. Exploring complex built forms and expanding their horizon through discussions in the areas of interest help them to pursue research as well as investigation by getting them involved with studio modules to help them integrate their findings with design resolutions. The 9th semester studio is also a space where the technology studio is integrated with the concerns that emerge out of the student's design dissertation. The student has to integrate a detailed understanding of material, construction and environmental systems within their design projects. There is an attempt to allow a student to make choices for her projects by providing her with a support structure of varying specializations that she can access to evolve her project holistically.

Architectural Theory

Courses: Professional Practice, Architectural Theory

The course is an introduction to concepts in critical theory, frameworks or analysis, looking through works across disciples. Students evolve ways of applying these frameworks for analysis to contemporary cultural objects/ phenomena. The Professional Practice course explores the current scenario of the building profession within legislative, institutional and economic frameworks.

Allied Design

Courses: Bridge Studio

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Semester 9

Scheme of Teaching and Examinations

Scheme of Teaching and Examinations
Bachelor of Architecture (B. Arch.)

Semester IX

	Semester IX Exam conducted by college	Teaching Scheme		Credits		
Course code	Courses	Lecture	Studio	Theory	Studio	To
BARC 901	Architectural Design Studio 8		8		8	8
BARC 902	Allied Design Studio 8	2	3	2	3	5
BARC 903	Architectural Building Construction 8	2	2 classes of technology studio	2	1	3
BARC 904	Theory and Design of Structures 8	1		1	1	2
BARC 908	Architectural Building Services 6	1	2 classes of technology studio	1	1	2
BARC 906	Environmental studies 4	2		2	1	3
BARC 910	Professional practice 2	3		3		3
BARD 911	Design Dissertation 1	1	3	1	3	4
BARE 921	Elective 8		3		3	3
BARE 922	Elective 9		3		3	3
	Total	14	22	14	22	36

	Semester IX Exam conducted by college	Examination Scheme			
Course code	courses	Theory (paper)	Internal	External viva	Total
BARC 901	Architectural Design Studio 8		100	100	200
BARC 902	Allied Design Studio 8	50	50		100
BARC 903	Architectural Building Construction 8		100		100
BARC 904	Theory and Design of Structures 8		50		50
BARC 908	Architectural Building Services 6		50		50
BARC 906	Environmental studies 4		100		100
BARC 910	Professional practice 3	50	50		100
BARD 911	Design Dissertation 1		50	50	100
BARP 921	Elective 8		100		100
BARE 922	Elective 9		100		100
	Total	100	650	150	1000

Semester 9

Semester 9

Time-Table

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
8.00 - 8.50	**Architectural Design**		**Architectural Building Construction**		**Architectural Building Services**		**Elective 8 _Advanced Theory**		**Architectural Design**		**Binucom Courses: Allied Design**	
	barc 901	*4 of 8*	barc 903	3	barc 908	2	*Bare 921*	*3*	*barc 901, BARC 906*	*4 of 8, 1 evs*	BARC 902	2 of 5 (option 2)
8.50 - 9.40	Bridge Studio	TA Anjali, Vishnavi, Saii, Dwani	kumarguru	Jimmy sandhya	Minal	Kimaya	Sarah	Rohit Goel	Bridge Studio	TA Anjali, Vishnavi, Saii, Dwani	Kimaya	
							Amishha					
9.40 - 10.30					**Environmental Studies**							
					barc 906	2 of 3						
10.30 - 11.20			**Theory of Structures**		Minal	Kimaya	**Design Dissertation - Thesis Writing (extra 1 credit)**					
			barc 904, BARC 902	*2*			Sara	Ginella				
11.20 - 12.00												
12.00-12.50	**Professional Practice**		Kumarguru	Jimmy sandhya	**ENCOUNTER**		**Dissertation Writing: Allied Design**					
	barc 910	*3*					*Barc 902*	*3 of 5*				
12.50 - 1.20												
1.20 - 2.10	Mamta	Shantanu	**Design Dissertation**		**Binucom Courses: Allied Design**		Sonal, shirish, George, jimmy, Ginella, Shweta, Sandeep		**Design Dissertation**			
			Bard 911	*2 of 4*	BARC 902	2 of 5 (option 1)			*Bard 911*	*2 of 4*		
2.10 - 3.00			Rohan, Paul, Ainsley, Pinkish, Manoj, Vandana, Nikhil, Kalpit, Apurva, Advait, Mayuri, Shhraddha, Shhantanu, Nemish, Jimmy, Sonal, Shweta, Shirish, George, Kimaya. TA- Orko		mamta	Hussain			Rohan, Paul, Ainsley, Pinkish, Manoj, Vandana, Nikhil, Kalpit, Apurva, Advait, Mayuri, Shhraddha, Shhantanu, Nemish, Jimmy, Sonal, Shweta, Shirish, George, Kimaya. TA- Orko			
					Shweta							

BARC 901

COURSE NAME	Architectural Design Studio VIII	*SEMESTER*	*Nine*	CREDITS	8
FACULTY	Ashok & Vandana Chhaya & Ami Dick & Rohan Supriya& Chavvi	*SESSIONAL MARKS*	*100*	SCHEME OF EXAMINATION	External Viva
TIME	8-11.20	*TEACHING HOURS*	*120 hrs*	TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION

Collection and Analysis of data related to the design topic. Application of technical knowledge to design detailing. Understand the impact of socioeconomic factors on user requirements. Study of climatic conditions, site analysis, site planning. Understanding traffic patterns and transportation.

PEDAGOGIC INTENT

This course will comprise two parts – a preliminary research part and the main design project. It is envisaged that the research will build and inform the design project.
There will be intermittent short exercises to support the larger objectives. Equipped with research the students in tandem with the faculty will work on developing a suitable program for the design project. Through this project the students will develop the skills necessary to develop an architectural project that responds to its context A sophisticated use of representation and analytic tools including physical and computer-generated modeling will be an essential tool used for an increased understanding of the design process.

METHODOLOGY

The method/s will be in conjunction with the intent of the studio the site and the theoretical premise of the studio. This has to be developed by the faculty.

SCHEDULE

	DAY	DATE	*TEACHING CONTENT OF THE DAY*	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Tuesday	4th June 2019	Introduction		
	Friday	7th June 2019	Studio Discussion		
week 2	Tuesday	11th June 2019	Review	10 Marks	
	Friday	14th June 2019	Studio Discussion		
week 3	Tuesday	18th June 2019	Review	10 Marks	
	Friday	21rd June 2019	Review		
week 4	Tuesday	25th June 2019	Studio Discussion		
	Friday	28th june 2019	Studio Discussion		
week 5	Tuesday	2nd July 2019	Studio Discussion		
	Friday	5th July 2019	Studio Discussion		
week 6	Tuesday	9th July 2019	Studio Discussion		
	Friday	12th July 2019	Studio Discussion		
week 7	Tuesday	16th July 2019	Studio Discussion		
	Friday	19st July 2019	Studio Discussion		
week 8	Tuesday	23rd July 2019	Review	20 Marks	
	Friday	26th July 2019	Review		
week 9	Tuesday	30st July 2019	Studio Discussion		
	Friday	2nd August 2019	Studio Discussion		
week 10	Tuesday	6th August 2019	Studio Discussion		
	Friday	9th August 2019	Studio Discussion		
week 11	Tuesday	13th August 2019	Holiday		
	Friday	16th August 2019	Review	10 Marks	
week 12	Tuesday	20th August 2019	Studio Discussion		
	Friday	23th August 2019	Studio Discussion		
week 13	Tuesday	27th August 2019	Studio Discussion		
	Friday	30th August 2019	Studio Discussion		
week 14	Tuesday	3rd September 2019	Studio Discussion		
	Friday	6th September 2019	Pre final	20 Marks	
week 15	Tuesday	10th September 2019	Studio Discussion		
	Friday	13th September 2019	Studio Discussion		
week 16	Tuesday	17th September 2019	Studio Discussion		
	Friday	20th September 2019	Studio Discussion		
week 17	Tuesday	24th September 2019	Studio Discussion		
	Friday	27th September 2019	Studio Discussion		
week 18	Tuesday	1st October 2019	Studio Discussion		
	Friday	4th October 2019	Final Jury	30 Marks	

EVALUATION CRITERIA

Continous assesment ,Reviews Juries and Exhibition

LEARNING OUTCOMES

This is based on the individual tutors

READING LIST

This is based on the individual tutors

B.ARCH

COURSE NAME	Bridge Studio	SEMESTER	IX	CREDITS	
FACULTY	Ashok Lall,Vandana Ranjitsinh,Shweta Wagh,Hussain Indorewala,Kimaya Keluskar,Vikram Pawar	SESSIONAL MARKS	200	SCHEME OF EXAMINATION	
TIME	Fr-Sat,8.00am-3.00pm	TEACHING HOURS	100	TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION

PEDAGOGIC INTENT

This studio intends to enable the design professional to find his or her role in the complex reality of degenerating urban living environments or poor urban communities. It intends to develop a confidence of the designer's strategic imagination with a youthful passion, taking on the challenges of constrained resource, shifting futures, anonymous clients. The process of the studio intends to practice skills of hierarchical spatial design based on infrastructural logic and evolve collaborative work methods. The studio intends to give a good taste of the potential of professional work in the real world to transform the quality of life.

METHODOLOGY

The discipline of collaboration is retained through the entire studio.The course will be structured as 7 sessions through a series of realms around a curated series of texts, practices and cultural objects.

SCHEDULE

	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
SESSION 1: Malvani	Saturday	15-Jun-19	Introduction to the studio: - The architect in the community ,Shweta-Malvani Charitra! The life in the community. Their aspirations and compulsions - a narrative followed by Site Visit.	Nil	
	Sunday	16-Jun-19	Gully Boy , Discussion on the role we see ourselves play in the community,List of observations How people live, work, use materials of build, water, sewage, storm drainage, solid waste. Follow various actors across their daily trajectories.	Participation grade on 5	
SESSION 2:Role Play	Friday	28-Jun-19	Introduction - Ashok Lall Affordability, Spatial justice . Hussain:Teams take on roles play. Cooperatives/ Executives/ Stakeholders. Discussion/ Brainstorming / Who are we as professionals? What is our role?/Exploring the opportunities of community Living/ Future proofing/ Resilience	Participation grade on 20	Collate all site material and gather as much reference material as possible from the library, research and design cell works. Write your own Rap song- first response to the site and studio. Ref: Malvani Report KRVIA
	Saturday	29-Jun-19	PRESENTATION: Close mapping and brief :"Know your community -people and culture" ; Present your work charts, sketches, maps,models, photos and .."A day in the life" As per required format	Participation grade on 20	
SESSION 3: Resources	Friday	12-Jul-19	Kimaya- Take care - sea level rise- flooding, water scarcity, electricity failure, pollution, rising temperatures Developing a resource inventory. Using Data to Create a brief	Participation grade on 10	Test the brief you have created against the resource charts by creating first cut sketches of housing elements which embed these resources. Developing a resource inventory.Recognising environmental costs of materials and construction systems. Review and prepare deliverables and presentation format for next stage
	Saturday	13-Jul-19	Iteration 1: Come to the session with first cut ideas on integrating resources into building form. Discussion and brainstorming: The teams take a stand on whats important for their community. Work onthe resource charts	Participation grade on 10	PRESENTATION Present the resources and sustainable technologies appropriate for your community in the form of charts, sketches, maps, and models. As per required format
SESSION 4:Build	Friday	26-Jul-19	Vikrum -Construction systems – interlocking blocks – structural system- shade ventilate insulate. 4 person household, 6 person household, temporary accommodation, dorms plans and sections Iteration 2: Come to the session with first cut ideas on integrating building systems into building form.	Participation grade on 10	Work on house type, with reference materials, case studies, first cut sketches and ideas. Work with sections, collage and photomontage. Ref: Herman Hertzeberger/ Gino Cucchi/ Charles Correa
	Saturday	27-Jul-19	Discussion and brainstorming:. Work on the structural systems.Experiment with modular variations, generic growth and adaptability to family size and community requirements and relationships.	Participation grade on 10	PRESENTATION Present the structural and building technologies appropriate for your community homes in the form of drawings and models. As per required format
SESSION 5 : Build Spaces	Friday	09-Aug-19	Vandana/ Ashok - The home and its morphology	Participation grade on 10	Work on housing typologies, with reference materials, case studies, first cut sketches and ideas. Work with collage and photomontage. Ref:Christopher Alexander/ Herman Hertzeberger
	Saturday	10-Aug-19	Iteration 3: Massing studies. Evolve a clear system of relationships. Express spatial hierarchies, generic growth and adaptability to family size and community requirements and relationships.	Participation grade on 10	PRESENTATION Present the community structures and relationships as embodied in your building typology and design (appropriate for your community homes) in whatever format you choose.)
SESSION 6:Build Interconnections	Friday	23-Aug-19	Space making- Review 'Whats important?' and look at the living , working and interaction patterns created by your design. Experiment with hybrid programmes, enclosures, open and semi open spaces, routes of movement internal and external. Checking back: Multiple inputs- embedding the selected resourses from the inventory as appropriate into the design of the cluster . Remember environmental costs of materials and construction systems.	Participation grade on 5	Work on the outer edges of the community, corner buildings, community amenities, shared spaces, trees, roads, paths, housing typologies, with reference materials, case studies, first cut sketches and ideas. Work with collage and photomontage Ref:The Urban village/ B V Doshi
	Saturday	24-Aug-19	Iteration 3: Evolve a clear system of relationships, hierarchies in the immediate and removed open spaces. Access and usage community requirements , mult	Participation grade on 20	PRESENTATION Present the community structures and relationships as embodied in your building typology and design (appropriate for your community homes) in whatever format youchoose.)
			ESQUISSE- MIDTERM BREAK 02-09-2019 TO 07-09-2019		
SESSION 7: Build Interconnections	Friday	13-Sep-19	REVIEW : Esquisse	Esquisse grade on 20	Write a brief/ manual/ walk through the design/ salient features/ constraints/ where would you have liked to go from here. Presentation and communication technique
	Saturday	14-Sep-19	Reviews/ desk crits and Add ons for Final work	Participation grade on 20	
Week 8: Jury	Friday	27-Sep-19	Jury with Peers	30	
	Saturday	28-Sep-19	Jury with Stakeholders		

EVALUATION CRITERIA

Analytical Abilities that inform advocacy, evolution of housing development in degenerating urban settlements. Design and Representaiton Skills

LEARNING OUTCOMES

1. Issues that surround the designer and his or her work; 2. Learning to design built environments; 3. Learning to build; 4. Learning to tell

READING LIST

To be circulated at a later date.

B.ARCH					
	COURSE NAME	Bridge Studio	SEMESTER	IX	CREDITS	
	FACULTY	Neelkant Chhaya, Ami Gokani	SESSIONAL MARKS	200	SCHEME OF EXAMINATION	
	TIME	8:00am-4:00pm (varies)	TEACHING HOURS	120	TIME REQUIRED OUTSIDE OF CLASS	150hrs

UNIVERSITY COURSE DESCRIPTION	
PEDAGOGIC INTENT	This studio will research, design and propose architectural concepts, languages and environments that envision, express and support a way of living that is rich and diverse without being exploitative and destructive. In order to do this, we will study myths, stories, literature, the visual arts, forms of the performing arts as well as architectures from various times and places. History, social and anthropological writings, political and economic theories, philosophy and religious thought will allow the student to contextualize their studies. The studio will include, amongst other exercises, studies of transformation, translation and mutation of architectural forms in history. Based on the understandings built up by such exercises, the studio will encourage each student to select a design project and develop it to the level of architectural expression in terms of space, scale, tectonic values, materials, light and formal characteristics.
METHODOLOGY	The studio will include, amongst other exercises, studies of transformation, translation and mutation of architectural forms in history. Based on the understandings built up by such exercises, the studio will encourage each student to select a design project and develop it to the level of architectural expression in terms of space, scale, tectonic values, materials, light and formal characteristics. At the beginning of every two-week period, there will be intensive interactions between students and tutors in whole-day sessions in class. During these sessions, background lectures, desk crits, on-drawing-board exercises, reading-and-discussion sessions etc. will take place. Work to be done during the remaining days of the week will be chalked out at the end of the two-day sessions. Students will be required to complete the set-out work by the beginning of the next session. Students will completely adhere to the schedule, and have the work ready for discussion at the next meeting.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1 & 2	Saturday	15-Jun-19	Working in groups of five, students imagine inhabiting a chosen settlement within an imaginary geography given to them by tutors.		Group activity: Written or drawn stories of kinds of inhabitation at overall scale and in chosen area. 1: 5000 and 1:500 block models, drawings.
week 1 & 2	Sunday	16-Jun-19	Written or drawn stories of kinds of inhabitation at overall scale and in chosen area.		
week 3 & 4	Tuesday	25-Jun-19	Discussion		
week 3 & 4	Friday	28-Jun-19	Comparative Settlements and Institution studies. Dwelling configurations, Civic/Political, Market/Exchange, Religious, Cultural, Recreational and Educational places would all be studied. These will be seen side-by-side with examples of stories, poems, paintings, sculptures, dance/theatre, mathematics/philosophy science and technology aspects.		Comparative Settlements and Institution studies. All to be drawn at 1:500 & 1:200 scales. Analytical drawings to be made.
week 3 & 4	Saturday	29-Jun-19	same as above		
week 5	Friday	12-Jul-19	Students will imagine the nature of institutions that are likely to have occurred in the place they have imagined. Each student will then begin to evolve the architectural concepts and forms in this context.		architectural concepts and forms in this context. Diagrams, 1:200 drawings, 1:1000
week 5	Saturday	13-Jul-19	same as above		
week 5	Sunday	14-Jul-19	Conceptual ideas will find manifestation that is responsive and appropriate to land, climate and vegetation. The use of materials and the organization of the building task, the impact of tools and techniques will all affect the design proposition.		
week 6	Monday	15-Jul-19	same as above		Schematic drawings, plans and sections at appropriate scales, Plans, sections and elements of proposed design, 1:100,1:200 and 1:50. Models. Diagrams and system drawings demonstrating the grammar and vocabulary, 1:1000, 1:500, 1:100 and 1:20.
week 7 & 8	Saturday	27-Jul-19	Design study exercises in various media and scales with attention to the nearby and the remote, the constant and the changing contents will help the student to achieve fluency and confident manipulation of ideas.		
week 7 & 8	Sunday	28-Jul-19	same as above		
week 9	Saturday, Sunday	10-08-19, 11-08-19	MID-SEM JURY	100	
week 10 & 11	Friday	23-Aug-19	The structuring of form and space in response to context is a manner of imbuing meaning about the collective. "Find the Form, make the Counter-form" (Aldo van Eyck.)		Through collective (group-based) drawing and model work, scales 1:500 and 1:200
week 10 & 11	Saturday	24-Aug-19	same as above		
week 12 & 13	Friday	30-Aug-19	Through iterative development using appropriate tools, we can begin to "inhabit" and experience the work that we have imagined. Sensuous richness, intellectual sophistication and emotional repose evolve through paying attention to corporeal qualities.		Study Sections and Models as well as renderings. Scales as appropriate. Iterations of design refinement based on these studies.
week 12 & 13	Saturday	31-Aug-19	same as above		
week 14 & 15	Friday	13-Sep-19	Students will recall and observe their intentions, their process and their proposal in a non-judgemental mode. Through this they will decide how to communicate at the final jury, including reflections upon how they have changed through this 16-week experience.		Each student will write and sketch using their Learning Diary, scans of earlier sketches, comparative inspirational material and any other media to discuss their own growth
week 14 & 15	Saturday	14-Sep-19	same as above		
week 16	Friday, Saturday	27-09-19 , 28-09-19	FINAL JURY	100	

EVALUATION CRITERIA	This studio will research, design and propose architectural concepts, languages and environments that envision, express and support a way of living that is rich and diverse without being exploitative and destructive. Emphasis will be given on the conversations, discussions and iterations that the students are able to get to the table, together with a design project developex to the level of architectural expression in terms of space, scale, tectonic values, materials, light and formal characteristics.
LEARNING OUTCOMES	To be able to imagine ways of living, that is rich and diverse without being exploitative and destructive, how man developes institutions responding to physical and material contexts. Thus attending to a vocabulary and grammar which lead to an emergent reality.

CO-PO mapped syllabi of B.Arch Course 2019-2020 –
Architectural Design Studio 8

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Design Studio 8
Course Code: BARC 901 **Sem 9** **Name 2019-20**

Course Objectives:

Use research and analytical tools to define a design program.
Understand and situate various models of the typology within the city's historical, social, economic and political contexts.
Develop ability to evolve spatial organization alternatives while taking into consideration simultaneous parameters.
Develop skills to complete the design arc from the conceptual idea to a coherent architectural solution that is formally, spatially and functionally resolved.

Course Outcomes (CO):
Rubrics:

Year of Assessment: 2019-20	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01: out of Marks**	**Credits**	**Date of submission**		
FIFTH YEAR - SEM 9	**Architectural Design Studio VIII**		**BARC901**	**100**	**100**	**8**	**End of term**		
Exercise: Title	Design studio based on the individual sets of tutors								
Exercise Note / Task	The design studio is one project but has two parts the research component and the architectural design intervention.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**

Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Choice and Nature of Inquiry/ data gathering	Outstanding research work With information from secondary sources and literature review	Outstanding research work With information from secondary sources	Outstanding research work	Excellent research work	Very Good work	Work demonstrates good amount of rigour with respect to the studio intent.	Work demonstrates fair amount of rigour with respect to the studio intent.	Work just about demonstrates	Work does not demonstrate any learning
Critical thinking to Evaluate and analyse	In-depth Analysis leading to the creation of new knowledge	Analysis and With the production of new knowledge	Outstanding Analysis evolving into a relevant architectural brief	Excellent Analysis evolving into a relevant architectural brief	Very Good nalysis with some co relation of an architectural brief to the context	Good amount of rigour with respect to the formulation of an architectural brief	Fair amount of thought with respect to the architectural brief.	Work just about demonstrates the architectural brief and the studio intent	Work does not demonstrate any learning
Application of the knowledge gained /manifestation & representation	Mature application of knowledge gained in all aspects	Maturity in the architectural manifestation and representation	Outstanding application of knowledge gained ,architectural manifestation & representation.	Excellent Learning outcome	Very Good learning and representation	Good amount of learning	Fair amount of learning	Work just about demonstrates the learnings in the studio	Work does not demonstrate any learning
Attendance/ participation in discussion	Very mature	Leadership in presentation	Proactive	Very enthusiastic	Very Good	Good amount of participation in the presentations	Fair amount of participation and attendance	Barely meets the minimum standards	Does not attend or participate

CO-PO mapping for a course of "UG Program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	The ability to collet and collate data from the context through primary and secondary research.	2	2	1	2	3	2	1	1
CO2	The ability to analyse the data and make inferences about the key issues based on the intent of the studio.	2	3	1	2	3	2	1	1
CO3	Ability to create an architectural brief with the program so as to intervene in the context/site.	2	3	3	2	2	2	2	1
CO4	Ability to represent the architectural scheme through drawings, renderings, multimedia and models	2	2	2	1	1	2	2	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 902						
	COURSE NAME	Allied Design: Binucom Courses + Dissertation Writing	SEMESTER	9	CREDITS	5
	FACULTY	Shweta, Mamata, Hussain; Ginella, Sarah	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Internal: 100
	TIME	Wednesday/ 1:20 pm to 3:00 pm Thursday/10:30 am to 11:20 am; 12:00 pm to 12: 50 pm	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	

BARC 902						
	COURSE NAME	Dissertation Writing	SEMESTER	9	CREDITS	3
	FACULTY	Ginella, Sarah	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal: 50
	TIME	Thursday/10:30 am to 11:20 am; 12:00 pm to 12: 50 pm	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	*Allied Design*
PEDAGOGIC INTENT	The course is aimed at developing the argument structure for the final year thesis dissertation.
METHODOLOGY	Students will be introduced to the various methodological problems (evidence, observation, reasoning, argument) of research, and the specific problems of research in the study of the built environment

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/ DELIVERABLE
week 1	Thursday	12-Jun-19	Introduction to the Course; Expectations and Outcomes		
week 2	Thursday	19-Jun-19	What is a Thesis?, Keywords - their use and misuse		
week 3	Thursday	26-Jun-19	Defining the area of study; Preparing a Reading list		
week 4	Thursday	3-Jul-19	Defining the area of study; Preparing a Reading list		
week 5	Thursday	10-Jul-19	Lecture: on Representation		
week 6	Thursday	17-Jul-19	Writing style and Referencing		
week 7	Thursday	24-Jul-19	Abstract: Writing, Content, Structure		
week 8	Thursday	31-Jul-19	Writing an Introduction		
week 9	Thursday	7-Aug-19	Student Presentations: Abstract + Book structure		
week 10	Thursday	15-Aug-19	Independence Day		
week 11	Thursday	22-Aug-19	Academic Ethics		
week 12	Thursday	29-Aug-19	Framing a title		
week 13	Thursday	5-Sep-19	Ganesh Chaturthi/Mid-Term Break		
week 14	Thursday	12-Sep-19	Writing a Conclusion		
week 15	Thursday	19-Sep-19	Lecture: Styles and Conventions of Research Writing		

LEARNING OUTCOMES	Students will be able to articulate the process of research, report their findings and conclusions with reference to existing literature that culminates in their thesis volumes

BARC 902						
	COURSE NAME	Reading the Urban Commons	SEMESTER	9	CREDITS	2
	FACULTY	Shweta	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal: 50
	TIME	01:20 - 03:00 pm	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	*Allied Design*
PEDAGOGIC INTENT	The course will involve an overview and introduction to the concept of the commons with a particular emphasis on the Urban commons. The literature is divided into three broad thematic frameworks: 1) Commons as Tenure, 2) Commoning as Practice and 3) Commoning as a Prospect.
METHODOLOGY	The course will consist of lectures and class discussions. The course will involve a review of secondary literature on the commons and case based learning. Students will analyze cases and be expected to write a written submission/ photo essay by the end of the course.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/ DELIVERABLE
week 1	Wednesday	12-Jun-19	Introduction: Commons and Urban Commons		
week 2	Wednesday	19-Jun-19	Commons as Tenure pt. 1		
week 3	Wednesday	26-Jun-19	Commons as Tenure pt. 2		
week 4	Wednesday	3-Jul-19	Commoning as a practice pt. 1		
week 5	Wednesday	10-Jul-19	Commoning as a practice pt. 2		
week 6	Wednesday	17-Jul-19	Commoning as a prospect pt. 1		
week 7	Wednesday	24-Jul-19	Commoning as a prospect pt. 2		
week 8	Wednesday	31-Jul-19	Case studies: perception of the urban commons		
week 9	Wednesday	7-Aug-19	Case studies: conflicts over the urban commons		
week 10	Wednesday	14-Aug-19	Case studies: reclaiming the urban commons		
week 11	Wednesday	21-Aug-19	Discussion Seminar: Review of written submission		
week 12	Wednesday	28-Aug-19	Discussion Seminar: Review of written submission		

LEARNING OUTCOMES	The pedagogic intent of the course is to employ case based learning methods to critically examine the notion of the commons and implications of the various uses of the term. In addition to understanding the historical or traditional use of the term, the course will explore its contemporary relevance and the potential use of this concept as the basis for progressive struggles, often posed as an alternative to the neo-liberal city.

BARC 902	COURSE NAME	Urban form, resilience and sustainibility	SEMESTER	9	CREDITS	2
	FACULTY	Mamta	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal: 50
	TIME	01:20 - 03:00 pm	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	*Allied Design*
PEDAGOGIC INTENT	Assessing risk can be made an integral part of urban planning and decision making by streamlining data acquisition and management into an integrated system that can not only be updated and monitored easily, but also be accessible to all stakeholders involved in city management.
METHODOLOGY	**Series of lectures and presentations, GIS Risk mappng and Preparation of adaptive strategies**

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Wednesday	12-Jun-19	Introduction to climate change and the urban environment Inroduction to climate change adaptation		
week 2	Wednesday	19-Jun-19	Introducion to vulnerability, hazard and risk Climate change in the Indian Context		
week 3	Wednesday	26-Jun-19	Climate change Impacts on the cities, related to urban poverty and informal setlements		
week 4	Wednesday	3-Jul-19	Urban disaster resilience, risk and opportunities for resilience		
week 5	Wednesday	10-Jul-19	Risk assessment through case studies in the city		
week 6	Wednesday	17-Jul-19	Hazard identification, exposue, vulnerability and risk analysis		
week 7	Wednesday	24-Jul-19	Surveys to establish consequences		
week 8	Wednesday	31-Jul-19	Stakeholder involvement		
week 9	Wednesday	7-Aug-19	Mapping risks through GIS		
week 10	Wednesday	14-Aug-19	Risk map preparation		
week 11	Wednesday	21-Aug-19	Adaptation strategies - learning through policies, planning and design		
week 12	Wednesday	28-Aug-19	Exploring tools to build rsilience - eg watershed management		
week 13	Wednesday	4-Sep-19	Ganesh Chaturthi/Mid-Term Break		
week 14	Wednesday	11-Sep-19	Development of adaptive strategies		

EVALUATION CRITERIA	*Identification of risks and demonstration of building resilience in vulnerable communities chosen*
LEARNING OUTCOMES	*The objective of the course would be knowledge and skill building that will enable the students to use design as a medium for adaptation strategies.*
READING LIST	IPCC Climate Change Policies; **UN Habitat** - Climate Change Adaptation; Climate change and Environmental Degradation Risk and Adaptation assessment; Methodological approaches to urban hazard and risk assessment - **Victor Jetten** Integrating risk reduction, urban planning and housing: Lessons from El Salvador **Wamsler, Christine** Adapting to Climate Change: Cities and the Urban Poor - **IHC**

BARC 902	COURSE NAME	Housing Theory: Understanding Urban Settlement and Occupation	SEMESTER	9	CREDITS	2
	FACULTY	Hussain	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal: 50
	TIME	01:20 - 03:00 pm	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	*Allied Design*
PEDAGOGIC INTENT	The housing struggle is a struggle over meaning. Housing means different things to different people. As a home, it is for many a site of social reproduction. For many others, as basic shelter, it is the first foothold in a city. It may be shaped by the expertise of professionals, but it may also be built by the hands of its inhabitants. For some, it is a source of status and wealth; for some others, it is an instrument of social control. It provides work to those who construct it, manage it and maintain it. It produces Profit for those who invest in it, and income for those who let it. It is taxed by the state and often spent on. It is an extension of the body, offering privacy and security, but is often a site for oppression and exploitation. It is often organized to segregate and isolate, but sometimes it also serves to empower and resist. For dwellers, it unlocks a whole range of social, cultural and political worlds. But most of all, it offers the possibility of freedom, identity and individuality.
METHODOLOGY	Each of these "ways of thinking housing" will be introduced and discussed through short readings, presentations, films and occasionally, through site visits. Please note that this couse will require engaging with theoretical texts, and students will be expected to read in class as well as before class.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Wednesday	12-Jun-19	Introduction: Understanding Urban Settlement and Occupations		
week 2	Wednesday	19-Jun-19	Dishousing the City Evictions, Displacement and Dwelling in Bombay		
week 3	Wednesday	26-Jun-19	"Slum" as Discourse Views of and views from the "Slum"		
week 4	Wednesday	3-Jul-19	Seeing Like a State Categories, Institutions, Schemes		
week 5	Wednesday	10-Jul-19	Housing as a Private Good The Tyranny of Supply and Demand		
week 6	Wednesday	17-Jul-19	Housing as A Verb Autonomy, Control and Agency		
week 7	Wednesday	24-Jul-19	Housing as a Right Struggles and Strategies		
week 8	Wednesday	31-Jul-19	Housing and Land The Economics of Land and Housing		
week 9	Wednesday	7-Aug-19	Regulating and Deregulating Housing Development Rights, Land Policy & Building Standards		
week 10	Wednesday	14-Aug-19	Resettling and Rehabilitating Segregation, Dispossession and Densification		

LEARNING OUTCOMES	The pedagogic intent of the course is to employ case based learning methods to critically examine the notion of the commons and implications of the various uses of the term. In addition to understanding the historical or traditional use of the term, the course will explore its contemporary relevance and the potential use of this concept as the basis for progressive struggles, often posed as an alternative to the neo-liberal city.

CO-PO mapped syllabi of B.Arch Course 2019-2020_Allied Design: BinuCom Courses + Dissertation Writing_Sem 9

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Allied Design: Dissertation Writing **Sem: 9** **Fifth Year**

Course Objectives:

- To develop a research structure for the thesis volume
- To analyse and reason specific problems of research in the study of the built environment

Course: Allied Design: BinuCom Courses **Sem: 9** **Fifth Year**

Course Objectives :

- To develop knowledge and skill building that will enable the students to use design as a medium for adaptation strategies.
- To frame strategies in building inclusive and resilient communities
- To understand the relationship of the built form with an individual

Course Outcomes (CO): (Allied Design: Dissertation Writing + BinuCom Courses)

1. Developing methods of conducting research
2. Articulating the process of research through observations and findings
3. Using design as a medium for adaptation strategies
4. Analyzing, critiquing and articulating arguments

Rubrics (Allied Design: Dissertation Writing):

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks: max 50**	**Exercise : Marks out of**	**Cred-its**	**Date of sub-mission**		
Fifth Year - Sem 9	**Allied De-sign: Dis-sertation Writing**		**BARC 902**	**50**	**50**	**3**			
Exercise: Title	Writing the Final Thesis Volume								
Exercise Note / Task	Developing a structure for the final thesis volume								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Sati sfac tory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54 % - 50 %**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Articula-tion and analysis of research argument	1) Extremely articulate in framing the area for in-quiry. 2) Very clear structure for presenta-tion. 3) Well researched	1) Very articulate in fram-ing the area for inquiry. 2) Clear structure for pre-sentation. 3) Well re-searched	1)Clear and Articulate in framing the area for in-quiry. 2) Well researched structure for presentation.	1) There is clarity in the area of inquiry 2) Research and struc-ture for presenta-tion is fairly good.	1) The area of inquiry is fairly good 2) Research and struc-ture for presenta-tion can be better.	1) The area of inquiry is good 2) Re-search and struc-ture for presen-tation is fair.	1) There is clarity in the area of in-quiry 2) Re-search and struc-ture for pre-senta-tion is found lack-	1)There is poten-tial for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Non submis-sion
Participation in Stu-dio	Attends less than 95% of total classes	Attends less than 90% of total classes	Attends less than 85 % of total classes	Attends less than 75 % of total classes	Attends less than 70 % of total class-es	Attends less than 65 % of total classes	At-tends less than 60 % of total class-	Attends less than 55 % of total classes	Attends less than 50 % of total classes

Rubrics (Allied Design: BinuCom Course on Reading the Urban Commons):

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks: max 50**	**Exercise : Marks out of**	**Cred-its**	**Date of sub-mission**		
Fifth Year - Sem 9	**Allied De-sign: Bin-uCom Course on Reading the Urban Commons**		**BARC 902**	**50**	**50**	**2**			
Exercise: Title	Written assignment on Urban Commons								
Exercise Note / Task	Analyze cases discussed in class for a written submission/ photo essay								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Sati sfac tory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54 % - 50 %**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Collation , analysis and artic-ulation of Data col-lected	1) Extremely articulate in framing the area for in-quiry. 2) Very clear structure for presenta-tion. 3) Well researched	1) Very articulate in fram-ing the area for inquiry. 2) Clear structure for pre-sentation. 3) Well re-searched	1)Clear and Articulate in framing the area for in-quiry. 2) Well researched structure for presentation.	1) There is clarity in the area of inquiry 2) Research and struc-ture for presenta-tion is fairly good.	1) The area of inquiry is fairly good 2) Research and struc-ture for presenta-tion can be better.	1) The area of inquiry is good 2) Re-search and struc-ture for presen-tation is fair.	1) There is clarity in the area of in-quiry 2) Re-search and struc-ture for pre-senta-tion is found lack-	1)There is poten-tial for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Non submis-sion
Participation in Stu-dio	Attends less than 95% of total classes	Attends less than 90% of total classes	Attends less than 85 % of total classes	Attends less than 75 % of total classes	Attends less than 70 % of total class-es	Attends less than 65 % of total classes	At-tends less than 60 % of total class-	Attends less than 55 % of total classes	Attends less than 50 % of total classes

Rubrics (Allied Design: BinuCom Course on Urban form, Resilience and Sustainability):

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks: max 50**	**Exercise : Marks out of**	**Cred-its**	**Date of sub-mission**		
Fifth Year - Sem 9	**Allied De-sign: Bin-uCom Course on Urban form, Re-silience and Sus-tainability**		**BARC 902**	**50**	**50**	**2**			
Exercise: Title	Mapping Risks								
Exercise Note / Task	Risk Mapping and Preparation of Adaptive strategies								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Sati sfac tory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54 % - 50 %**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Collation and analy-sis of Data collected	1) Extremely articulate in framing the area for in-quiry. 2) Very clear structure for presenta-tion. 3) Well researched	1) Very articulate in fram-ing the area for inquiry. 2) Clear structure for pre-sentation. 3) Well re-searched	1)Clear and Articulate in framing the area for in-quiry. 2) Well researched structure for presentation.	1) There is clarity in the area of inquiry 2) Research and struc-ture for presenta-tion is fairly good.	1) The area of inquiry is fairly good 2) Research and struc-ture for presenta-tion can be better.	1) The area of inquiry is good 2) Re-search and struc-ture for presen-tation is fair.	1) There is clarity in the area of in-quiry 2) Re-search and struc-ture for pre-senta-tion is found lack-	1)There is poten-tial for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Non submis-sion
Participation in Stu-dio	Attends less than 95% of total classes	Attends less than 90% of total classes	Attends less than 85 % of total classes	Attends less than 75 % of total classes	Attends less than 70 % of total class-es	Attends less than 65 % of total classes	At-tends less than 60 % of total class-	Attends less than 55 % of total classes	Attends less than 50 % of total classes

Rubrics (Allied Design: BinuCom Course on Housing Theory: Understanding Urban Settlement and Occupation):

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks: max 50**	**Exercise : Marks out of**	**Cred-its**	**Date of sub-mission**		
Fifth Year - Sem 9	**Allied De-sign: Bin-uCom Course on Housing Theory: Under-standing Urban Settlement and Occu-pation**		**BARC 902**	**50**	**50**	**2**			
Exercise: Title	1000 word essay on Affordable Housing								
Exercise Note / Task	Reading theoretical texts that enable students in writing a paper on Affordable Housing								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Sati sfac tory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54 % - 50 %**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Analysis and Artic-ulation of readings	1) Extremely articulate in framing the area for in-quiry. 2) Very clear structure for presenta-tion. 3) Well researched	1) Very articulate in fram-ing the area for inquiry. 2) Clear structure for pre-sentation. 3) Well re-searched	1)Clear and Articulate in framing the area for in-quiry. 2) Well researched structure for presentation.	1) There is clarity in the area of inquiry 2) Research and struc-ture for presenta-tion is fairly good.	1) The area of inquiry is fairly good 2) Research and struc-ture for presenta-tion can be better.	1) The area of inquiry is good 2) Re-search and struc-ture for presen-tation is fair.	1) There is clarity in the area of in-quiry 2) Re-search and struc-ture for pre-senta-tion is found lack-ing	1)There is poten-tial for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Non submis-sion

Participation in Studio	Attends less than 95% of total classes	Attends less than 90% of total classes	Attends less than 85 % of total classes	Attends less than 75 % of total classes	Attends less than 70 % of total classes	Attends less than 65 % of total classes	Attends less than 60 % of total classes	Attends less than 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 9

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	Developing methods of conducting research	3	1	1	1	0	2	1	2
CO2	Reviewing literature and critiquing arguments	3	2	2	1	0	2	2	2
CO3	Using design as a medium for adaptation strategies	2	3	3	1	1	1	1	3
CO4	Analyzing, critiquing and articulating arguments	3	1	1	1	1	2	2	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 903						
	COURSE NAME	ARCHITECTURAL BUILDING CONSTRUCTION VIII	SEMESTER	Nine	CREDITS	3
	FACULTY	SANDHYA, JIMMY, KUMARGURU	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Internal
	TIME	Tuesday 8:00 am to 10:30 am	TEACHING HOURS	2hr 30min	TIME REQUIRED OUTSIDE OF CLASS	ca

UNIVERSITY COURSE DESCRIPTION	Long span structures such as Portals, folded plates, shells, pre and post tensioned member for long span beams, roof trusses, girders, space frames, geodesic, tensile and cable stayed structures
PEDAGOGIC INTENT	The course shall create an inquiry on the technological intent of their Design dissertation through a number of lectures and hands on exercises thereby informing them on a number of fronts such as, large span systems and systems that help shape programme through structure and skin, structuralist ideology adopted for their projects through materiality and system, get them to structurally resolve their projects through diagrammatic analysis and hands on models,and lastly inquiry into site, geography and climate
METHODOLOGY	Presentations of case studies and lectures by faculty thereby informing them on various structural systems with hands on workshop on large span and structural systems relevant to their projects based on their technological intent through design ideology, scale, material selection and detailing.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1,2	Saturday	4-Jun-19	Introduction - intent of the semester and Course structure Overview		
	Saturday	11-Jun-19	Long span structures - Architectural Expressions		
week 3,4	Saturday	18-Jun-19	Portals : Architectural Design of Portal; use of Portal:		
	Saturday	25-Jun-19			
week 5,6	Saturday	2-Jul-19	Skins of a Large spanned structure		
	Saturday	9-Jul-19	Hands on models to understand Portals	10	Assignment 1
week 7,8	Saturday	16-Jul-19	Folded Plates		
	Saturday	23-Jul-19			
week 9,10	Saturday	30-Jul-19	Tensile structures		
	Saturday	6-Aug-19	Prestressed Technology: Satish jain		
week 11,12	Saturday	13-Aug-19	Long span arches, shells: Vikram		
	Saturday	20-Aug-19			
week 13,14	Saturday	27-Aug-19	Recap		
	Saturday	3-Sep-19	Workshop + Engagement with DD site & intent	15	Assignment 2
week 15,16	Saturday	10-Sep-19	Review-Deliverable n Paper expected	25	Assignment 3
	Saturday	17-Sep-19	Paper on the str. ideological/ technological intent of DD		

EVALUATION CRITERIA	Involvement of the student in the various short exercises/ workshops conducted to work towards the technological intent along with reflection of the same as research data and analysis that can reflect as volume1 of the design dissertation report.
LEARNING OUTCOMES	The student through the course should be made aware of the various large and complex structural systems, apply the same through analytical and hands on inquiry as wellas well be able to develop the technological intent towards ones own Design Dissertation
READING LIST	Structural system by Henrich Engel, Construction material methods and techniques by Spence and Kultermann, Fundamentals of Building Construction by Allen and Iano

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Advance Building Construction*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architecture Building Construction
Course Code: BARC 903

Sem 9

Name - 2019-20

Course Objectives:

1. To enable students to make decisions about the directions for their future practices through reflexive thinking and research further to their learning in earlier 4 years.
2. To enable an intersection of architectural practice with the academic space where both the school and the students make choices based on their particular interest.
3. To bring into the academic space, explorations of particular interests in the city.
4. To continue to urge students to pursue their interest in systemic understanding of architecture as tectonic as well as environmental.
5. To explore complex built forms through integration with archetype resolutions.
6. To urge students to develop an ethical choice for practice in context to the role that architecture should take on, in relation to history, ecology and making a more fair world.

Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines, Ethics based etc)

Course Outcome (Co)	Description
CO1	They develop an intuitive understanding of the various building systems and proportionate sizes of the components and are able to visualise their concepts as material objects subjected to natural forces, usage and constructional possibilities.
CO2	Analysis of built form from structural perspective; climatic factors and the building elements response to it; the materials used in making the built form and the various elements; visualising process of construction on site; and anticipating behaviour of the structure over its expected life span forms the core scope of technology pedagogy.
CO3	They are able to develop and represent a substantially sound technical proposal.
CO4	They refer to appropriate resources (case studies, standards, technical literature, guidelines, handbooks, codes, etc.) as required while arriving at solutions to the design problems. In absence of suitable standards, they are able to custom design details befitting their core idea.
CO5	They develop empathy towards craft and craftsmanship and they themselves inculcate a practice of doing “hands-on” wherever the opportunity is available.

Rubrics:

Year of Assessment: 2019-20	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks:**	**Exercise: Marks out of**	**Credits**	**Date of submission**		
FIFTH YEAR - SEM 9	**Architectural Building Construction-8**		**BARC 903**	**100**	**100**	**2**			
Exercise: Title	Tectonic explorations of large span structures								
Exercise Note / Task	Analytical and Representative models of structural systems of large spans								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Analytical skills	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Representation through drawings	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Ideas for synthesis drawings	Innovative. Experimental and Bold Clarity.	Very impressive. Highly demonstrative.	Excellent presentation of ideas.	Very good attempt to present ideas.	More than adequate attempt to present ideas.	Just adequate attempt to present ideas.	No further enquiry.	No further enquiry.	Does not complete the assignment
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem ……

CO-PO mapping for a course of "UG Program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Intuitive Understanding	3	3	3	2	2	3	3	2
CO2	Structural and Construction soundness	3	3	3	2	2	3	3	3
CO3	Representation	3	3	3	3	2	3	3	3
CO4	Innovation	3	3	3	3	2	3	3	3
CO5	Empathy	2	2	3	3	2	3	2	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 904	COURSE NAME	Theory of Structures 8	SEMESTER	9	CREDITS	2
	FACULTY	Jimmy, Sandhya, Kumarguru	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory
	TIME	10.30-11.20, 12.00-12.50	TEACHING HOURS	Lectures-18 periods of 50 minutes duration- 15 hours Studio- 18 periods of 50 minutes duration- 15 hours	TIME REQUIRED OUTSIDE OF CLASS	-

UNIVERSITY COURSE DESCRIPTION	*1. Long span structures* *Long span beams, Long span Trusses & Roof structures. Long span Arches,* *2. Cable supported structures* *3. Folded Plate structures, Shell structures.* *4. Space frames* *5. Portal frames* *6. Pre-stressed Concrete, Pre-stressing and its applications to buildings, Principles of Pre-tensioning & Post-tensioning*
PEDAGOGIC INTENT	
METHOD	

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
week 1	Tuesday	4/6/2019	Long Span Structures - Portals		
week 2	Tuesday	11/6/2019	Long Span Structures - Portals		
week 3	Tuesday	18/6/2019	Long Span Structures - Portals		
week 4	Tuesday	25/6/2019	Cable supported Structures		
week 5	Tuesday	2/7/2019	Revision		
week 6	Tuesday	9/7/2019	Folded Plate	10	Submission
week 7	Tuesday	16/7/2019	Shells		
week 8	Tuesday	23/7/2019	Pre-stressed technology	10	Report
week 9	Tuesday	30/7/2019	Tensile structures		
week 10	Tuesday	6/8/2019	Pre-stressed technology	20	Reports/Presentation
week 11	Tuesday	13/8/2019	Materials, alternate technologies		
week 12	Tuesday	20/8/2019	Revision		
week 13	Tuesday	27/8/2019	Systems		
week 14	Tuesday	3/9/2019	Revision		
week 15	Tuesday	10/9/2019	Portal Revision		
week 16	Tuesday	24/9/2019	Compilation	20	Final
EVALUATION CRITERIA	*Students understanding of the theory and structural concepts and the ability to demonstrate them*				
LEARNING OUTCOMES	*Student shall be able to develop and demonstrate the topics covered in terms of understanding of structures on a given design*				
READING LIST					

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Theory of Structures 8*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instil in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Theory of Structures 8
Course Code: BARC 904
Sem 9
Name - Fifth

Course Objectives:
To enable students the understanding of long span structures and complex forms , pre-stressed technology, advanced concrete, tensile and shell structures.

Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines, Ethics based etc)

Course Outcome (Co)	Description
CO1	**To understand long span structural framing and design**
CO2	**To evaluate advance construction on the basis of structural understanding**
CO3	**To analyse and apply stresses in complex structures with respect to form and frames**

Rubrics:

Year of Assessment: 2019-20	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 50**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
FIFTH YEAR - SEM 9	**Theory of Structures 8**	**BARC 904**	**BARC 904**	**50**		**2**			
Exercise: Title	Reports based on specified topics								
Exercise Note / Task	Prepare a report of cases and lecture on the basis of understanding/ Case studies/ Site Visits								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Understanding of systems and application in studios	**Complete understanding of theory and its application**	**Very good understanding of theory and its application**	**Good understanding of theory and its application**	**Fair understanding of theory and its application**	**Satisfactory understanding of theory and its application**	**Average understanding of theory and its application**	**Less understanding of theory and its application**	**Unsatisfactory understanding of theory and its application**	**No understanding of theory and its application**
Representation Technique and final submission	**Very well formatted presentation**	**Well formatted presentation**	**Clear formatted presentation**	**Very good formatted presentation**	**Good formatted presentation**	**Fairly formatted presentation**	**Barely managed to get clarity of intent**	**Less clarity in terms of ideas and processes**	**Absolute no clarity of thought and understanding of the subject**
Participation in Class	**Attends less than 95% of total classes**	**Attends less than 90% of total classes**	**Attends less than 85 % of total classe**	**Attends less than 75 % of total classe**	**Attends less than 70 % of total classes**	**Attends less than 65 % of total classes**	**Attends less than 60 % of total classes**	**Attends less than 55 % of total classes**	**Attends less than 50 % of total classes**

COPO Mapping Setup for Sem 9

CO-PO mapping for a course of UG Program									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To understand long span structural framing and design	2	3	1	0	2	0	3	1
CO2	To evaluate advance construction on the basis of structural understanding	2	3	1	0	2	0	3	1
CO3	To analyse and apply stresses in complex structures with respect to form and frames	2	3	1	0	2	0	3	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 908					
COURSE NAME	Architectural Building Services IV	SEMESTER	9	CREDITS	2
FACULTY	Minal, Kimaya,	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Only Internal Sessional Marking
TIME	8.00-9.40	TEACHING HOURS	100 minutes	TIME REQUIRED OUTSIDE OF CLASS	2 hours a week

UNIVERSITY COURSE DESCRIPTION	Advanced Technology - integrated services, Specialized Services required for specific functions/ building types (for example hospitals, hotels, auditorium) Specialized services as per climatic conditions Building management systems Infrastructure and amenities for public spaces
PEDAGOGIC INTENT	The course attempts a comprehensive understanding of complex integrated services, such as Building Management Systems (BMS), climate-responsive architecture, energy efficiency, at design process level to not only optimize functionality and energy efficiency but also to play a significant role in evolving a unique architectural language. Furthermore, exposure to specialized services for specific functions in various types of buildings, such as hospitals, airports, large corporate offices, malls, and hotels, is facilitated through case study of various typology of buildings.
COURSE METHODS	Theory Lectures, Small Exercises, Case - studies.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	WED	12-Jun-19	Site Services - site planning principles		
week 2	WED	19-Jun-19	Site Services - Landscape as infrastructure. Integrating various water related site services with landscape.		
week 3	WED	26-Jul-19	Site Services - Landscape as infrastructure - Continue		
week 4	WED	03-Jul-19	Site Strategies and Systems		introduction of assignment - case study of site services of various campus typology
week 5	WED	10-Jul-19	Site Strategies and Systems - continue		
week 6	WED	17-Jul-19	Site and Services - Advanced Technology - District heating, bio-gas, solar technologies		
week 7	WED	24-Jul-19	Advanced Building services - Hospitals		
week 8		31-Jul-19	Case study presentation		
week 9	WED	07-Aug-19	Advanced Building services - Energy Efficient building System		
week 10	WED	14-Aug-19	Advanced Building services - Airports Guest Lecture		
weel 11	WED	21-Aug-19	Building Security Systems		
week 12	WED	28-Aug-19	Case study presentation		
week13	WED	04-Sep-19	Thesis Discussion		
week 14	WED	11-Sep-19	Thesis Discussion		
Week 15	WED	25-Sep-19	Thesis Discussion		
Week 15	WED	02-Oct-19	Thesis Discussion		

EVALUATION CRITERIA	The criteria for evaluation is basic understanding of services as an integral part of arcitecture and their importance for achieving not only basic comfort for human habitation but as a design strategy. Assignments are to evaluate this understanding in their application.
LEARNING OUTCOMES	The intent is to help students to internalize these concepts and encourage them to apply the same for their design, considering the four concepts discussed in the intent section with the added emphasize on sustainability as an overall umbrella.
READING LIST	B 14 Mechanical and Electrical Systems in Buildings B 16 Mechanical and Electrical Systems in Construction and Architecture B 1290 Energy Conservation Standards: for building design, construction and operation. B 4542 Building Services:Electro Mechanical and Environmental Services B 1922 Mechanical Systems for Architects. B 2222 Building Energy Management Systems:an application to heating and control. B 2234 Air-Conditioning:a practical introduction. B 3294 Mechanical and Electrical Equipment for Buildings. B 3879 Advanced Building Systems: a technical guide for Architects and Engineers.

CO-PO mapped syllabi of B. Arch Course 2019-2020 – Architectural Building Services 6

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpret learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorize and conceptualize ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project.
6. To enable the student to observe, experience, analyze space, its physicality, and its associations through the body.
7. To enable the student to extract the abstract from the experiential and center it as the basis of design.
8. To enable the student to break the boundary between abstract thought and material realities.
9. To enable students to discover multiple methods and tools to develop their own process of learning.
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive ways of intervening as architects through critical thinking.
2. To enable students with design skills that can navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that can navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding of cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Services 6

Course Code: 908 Sem 9 Fifth Year

Course Objectives:

The Architectural Building Services course this semester facilitates enquiry into sustainable and holistic mode of spatial production that requires research and application in their final thesis project. The course focus on technological concerns and representation that effectively communicates various aspects of their projects such as site analysis, contextual integration, climate responsiveness, materiality with different techniques and environmental system strategies. The objective of this course is design-based approach to resolution where these strategies are synthesized and incorporated in their project comprehensively to create not only visually appealing architectural form but functional and sustainable as well.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To enable students to arrive at design solutions that address various environmental issues through use of passive techniques, architecturally as well as at site and neighbourhood level, analytically.
CO2	To explore how the different environmental and services aspects inform design decisions, through vernacular and contemporary case study approaches.
CO3	To enable students in understanding inherent integration of complex building services in advanced buildings aesthetically and sustainably.

Rubrics

Year of Assessment: 2019-2020	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelor of Architecture								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks:**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
FIFTH YEAR - SEM 9	**Arch. Building services**		**BARC 908**	**50**		**2**	**Multiple**		
Exercise: Title	**Case Study analysis for their project**								
Exercise Note/task	**Report and drawings for their case study as a chapter in thesis**								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Understanding of systems and their integration with other systems as well as with space	1)Complete understanding of systems 2) its integration with other system 3) its hierarchy in planned space	1)Very good understanding of systems 2) its integration with others and its position in planned space.	Good understanding of systems and its integration and its position in planned space.	Fairly good understanding of systems and their integration and their position in planned space.	1)Understanding of a system is seen along with other systems 2) lacking spatial integration.	1)Lesser understanding of the system is seen along with other systems 2) lacking spatial integration.	1)Poor understanding of the system. 2)No understanding of integration with other systems.	Extremely poor understanding of the system.	Non-Submission
Representation Technique and final submission	Logical and semantic representation	Logical representation	Good representation in all aspect	Good representation in all aspect	Fairly represented in all aspect	The drawings could be understood	Representation needed clarification	Drawings not clear enough	Non-Submission
Attendance, time management and participation in Studio	Attends 95% of total classes	Attends 90% of total classes	Attends 85 % of total classes	Attends 80% of total classes	Attends 75% of total classes	Attends 70% of total classes	Attends 60% of total classes	Attends 55% of total classes	Attends less than 50% of total classes

CO-PO Mapping

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To enable students to arrive at design solutions that address various environmental issues through use of passive techniques, architecturally as well as at site and neighbourhood level, analytically.	3	2	2	2	3	2	2	3
CO2	To explore how the different environmental and services aspects inform design decisions, through vernacular and contemporary case study approaches.	3	2	2	1	1	2	3	2
CO3	To enable students in understanding inherent integration of complex building services in advanced buildings aesthetically and sustainably.	2	2	2	0	0	0	3	2

906						
	COURSE NAME	Environmental Studies IV	SEMESTER	9	CREDITS	3 (2 EVS + 1AD)
	FACULTY	Kimaya Keluskar , Minal Yerramshetty	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	sessional marking
	TIME	Wednesday (9.40 - 11.20)	TEACHING HOURS	45hrs	TIME REQUIRED OUTSIDE OF CLASS	2 hours a week

UNIVERSITY COURSE DESCRIPTION	Objective: To study and understand sustainable building design processes 1. Concepts of Sustainability 2. Energy Effciency 3. Water effciency 4. Material Effciency 6. Solid Waste Management
PEDAGOGIC INTENT	Module focusses on engaging students at urban scale dealing with sustainable issues, Quantifying data to be able to implement design strategies with respect to site/context , understanding various technolgies for effcient resource management creating low environmental impact built forms.
METHODOLOGY	Theory Lectures and discussions. The design aspects of the environmental systems cater to Architectural Design subject. A part of the AD project will be graded based on EVS aspects and concepts.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	1	12.06.2019	Rating systems and key concepts regarding rating system		
week 2	2	19.06.2019	Rating systems and key concepts regarding rating system		
week 3	3	26.06.2019	Resource 01 - Water (Calculations and systems involved)		
week 4	4	03.07.2019	Resource 01 - Case studies Presentation by Faculty		
week 5	5	10.07.2019	Resource 01 - Representation and detailing regarding integrated site systems		
week 6	6	17.07.2019	Resource 02 - Solar (Calculations and systems involved)		
week 7	7	24.07.2019	Resource 02 - Case studies Presentation by Faculty		
week 8	8	31.07.2019	Resource 02 - Representation and detailing regarding integrated site systems		
week 9	9	07.08.2019	Resource 03 - Waste (Calculations and systems involved)		
week 10	10	14.08.2019	Resource 03 - Case studies Presentation by Faculty		
weeK 11	11	21.08.2019	Resource 03 - Representation and detailing regarding integrated site systems		
week 12	12	28.08.2019	Resource 04 : Advance façade systems (Calculations and systems involved)		
week1 3	13	04.09.2019	Resource 04 - Case studies Presentation	50	Assessment of building systems and case study presentation
week 14	14	11.09.2019	Resource 04 - Case studies Presentation		
week 15	15	25.09.2019	Materials Effciency and Life cycle cost analysis		
week 16	16	09.10.2019	Objective Test	50	all topics covered above

EVALUATION CRITERIA	Test: objective test to gauge students's ability to understand various design parameters, decisison power, method of implementation, qualitative quantitative aspect of comfort, resource management and elements involved in energy efficent built forms
LEARNING OUTCOMES	Articulating sustaianble issues and area of engagement. Methodlogy for implemention of various technologies and representational skills for integrated climate responsive design
READING LIST	1 Handbook on Energy conscious buildings, 2 Environmental planning Anne Beer, 3 Skyscapers, KenYeang, 4 Ecological Architecture, 5 Soleri, 6 Energy Efficient buildings, 7 Environments, Technology and sustaianbility and Design with Nature, 9 Sustaianble builing in practices, 10 Responsive environments, 11 Ecohouse, 12 Green Architecture, 13 Natural Ventilation in Urban Enviornment , Greening Asia by Krishanan, Aquatecture by Robert Barker , Atlas for Sustainable Architecture by Pfammter

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Environmental Studies

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Environmental Studies 4
Course Code: BARC 906
Sem 9
Year 19-20

Course Objectives:

- Understand how to respond to climate atmosphere changes and its impact on the building, drive the dynamics of the functional aspect of the building, people, communities, and ecology. The new evolving concepts owing to climate change.
- Using Building physics as a tool to calculate energy performances of the built environment and impact on the natural environment.
- Learning to build constructive arguments to address the challenges of today and the futuristic built environment.
- Applying and devising various frameworks and toolkits to arrive /derive efficient building solutions and environmental strategies for adaptation and mitigation to address challenges of climate change.
- The design aspects of environmental systems will cater to the subject 'Architectural Design'.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To develop an understanding to conduct post-occupancy evaluation/building assessment studies in a built environment to inform design decisions.
CO2	To learn and derive a process of application using hard and soft skills to attain proficiency in energy consumption calculations, ecological footprint and carbon footprint of the built form
CO3	To apply interdisciplinary approaches such as ecology, economics, ethics, and policy to devise solutions to environmental problems at regional and neighbourhood level.
CO4	Be proficient with design and technical ideas of sustainability, net zero energy buildings, dynamic façade systems etc. that address climate adaptation and mitigation strategies.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year and Sem	**Subject**	**Subject code:**	**Sessional marks**	**Exercise marks**	**Credits**	**Date of submission**	**Upgrade 01**	**Upgrade 02**	
FIFTH YEAR-SEM 9	**EVS**	**BARC 906**	**100**	**50**	**3:2 EVS+1AD**	**11.09.2019**			
Exercise: Title	Assessment of building systems								
Exercise Note / Task	Case study presentation								
	EVS	**BARC 906**	**100**	**50**	**3:2 EVS+1AD**	**09.10.2019**			
Exercise: Title	Objective Test								
Exercise Note / Task	Objective (analytical and written) test on all topics covered								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Depth of Inquiry and understanding	Showcasing all adopted tools, frameworks to devel	Showcasing well outstanding insights adopted tools, frameworks to	Showcasing Outstanding insights using tools, frame	Showcasing excellent insigths using ado	Showcasing very good insigths using adopted tools,	Showcasing good insigths using adopted tools, frameworks to develop	Showcasing fair insigths using adopted tool	Generic methods of analysis	Not informed process of adptation of tools and frameworks

	op methodology to critique and analyse the data collected	develop methodology to critique and analyse the data collected	works to develop methodology to critique and analyse the data collected	pted tools, frameworks to development methodology to critique and analyse the data collected	framework s to develop methodology to critique and analyse the data collected	methodology to critique and analyse the data collected	s, frameworks to development methodology to critique and analyse the data collected		
Representation Technique	Very well formatted presentation of case studies explaining concepts, process adopted using digarms, sketches and assessment	Well formatted presentation of case studies explaining concepts, process adopted using digarms, sketches and assessment	Clear formatted presentation of case studies explaining concepts, process adopted using digarms, sketches and assessment	Very good formatted presentation of case studies explaining concepts, process adopted using digarms, sketches	Good formatted presentation of case studies explaining concepts, process adopted using digarms, sketches and assessment	Fairly formatted presentation of case studies explaining concepts, process adopted using digarms, sketches and assessment	Barely managed to get clarity of intent and study using poor diagams and sketches	Less clarity in terms of ideas and processes to be followed	Absolute no clarity of thought and understanding of the subject

				and assessment					
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and super outstanding participation	75% attendance and outstanding participation	75 % attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75 % attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem 9

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To develop an understanding to conduct post-occupancy evaluation/building assessment studies in built environment to inform design decisions.	2	3	3	2	1	1	2	1
CO2	To learn and derive a process of application using hard and soft skills to attain proficiency in energy consumption calculations, ecological footprint and carbon footprint of the built form	2	3	1	2	1	2	2	1
CO3	To apply interdisciplinary approaches such as ecology, economics, ethics, and policy to devise solutions to environmental problems at regional and neighbourhood level.	3	2	2	1	2	2	2	1
CO4	Be proficient with design and technical ideas of sustainability, net zero energy buildings, dynamic façade systems	2	2	2	1	2	2	3	1

	etc. that address climate adaptation and mitigation strategies.								

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 910	COURSE NAME	Professional Practice II	SEMESTER	Nine	CREDITS	3
	FACULTY	Mamta, Shantanu	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Theory - 50
	TIME	08:00 - 9:40	TEACHING HOURS	1 hour 40 minutes	TIME REQUIRED OUTSIDE OF CLASS	3

UNIVERSITY COURSE DESCRIPTION	NA
PEDAGOGIC INTENT	"Architecture has become an adaptable enterprise for a world that requires nimbleness, pragmatism, and no small amount of ingenuity" - Robert A. Ivy, FAIA. It aims to illustrate the legal, ethical and management concepts underlying the practice of architecture and give a critical orientation towards a career in architectural practice.
METHODOLOGY	The course will entail a series of lectures and presentations on key issues relating to the professional contexts of architectural practice, as well as examples of and strategies for traditional and other models of practice in preparation for the next stages of work experience and professional qualification.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Friday	17-06-2019	Easements and their types		
week 2	Friday	01-07-2019	Extinguishment of easements	10	Short notes on easements
week 3	Friday	15-07-2019	Repairs and Dilapidation	20	Documentation of dilapidated building in the city
week 4	Friday	29-07-2019	Waste; Landlords and tenants fixtures		
week 5	Friday	05-08-2019	Fire Insurance		
week 6	Friday	19-08-2019	Land Acquisitions		
			Mid-Term Break		
week 7	Friday	16-09-2019	Standard Rent	10	Study on land acquisition scams
week 8	Friday	30-09-2019	Standard Rent - Return on investment; Outgoings		
week 9	Friday	07-10-2019	Immovable property		
week 10	Friday	21-10-2019	Types of Land Tenure		

EVALUATION CRITERIA	Evaluation will based on how students are able to articulate themnselves, accuracy on framing clauses in contracts, conducting case studies to understand positions
LEARNING OUTCOMES	Encourage students to become entrepreneurs and enable them to set out as the next generation of innovative architects
READING LIST	Professional Practice by Roshan Namavati; Theory & Practice of Valuation by Roshan Namavati; Professional Practice in India – Madhav Deobhakta Valuation relating to standard rent by Roshan Namavati. Law of Arbitration by B.S Patil Arbitration Act & Procedure by Singh. Engineering contracts by Gajaria. Law of Easements by Amin & Shastry. Manual on Building Contracts by C.H.Gopinath. Changing Concepts of Proprietory Rights by Roshan Namavati. List of Acts I Rules (all latest versions including Amendments) Maharashtra Regional & Town Planning Act. BMRDA Act.

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Professional Practice 2*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Professional Practice 2 **Course Code: BARC 910** **Sem 9** **Fifth Year**

Course Objectives:
The course aims to deal with the question of Land, building and planning frameworks and its impact on the environment in relation with the existing housing stock in the city.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	**To analyse the frameworks leading to the situation of housing stock in the city through case studies and how practices emerged in response to various planning regulations**
CO2	**To evaluate the legal frameworks related with land and building and their role in developing ideological positions in practice**
CO3	**To understand how individuals/practices have situated themselves within the architectural profession**

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**University Subject Code**		**Sessional Marks: 50**	**Exercise 01: Marks 50**	**Credits**	**Date of submission**		
19-29 FIFTH YEAR - SEM 9	**Professional Practice II**	**BARC 910**				**3**			
Exercise: Title	Bodies and Planning frameworks								
Exercise Note / Task	To analyse the frameworks leading to the situation of housing stock in the city through case studies and how practices emerged in response to various planning regulations								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Lenses of inquiry	Extremely complex, new and original level of inquiry	Extremely complex, and comparatively new and comparatively original level of inquiry	Complex, and original level of inquiry	Moderate and original level of inquiry	Moderate and continued from earlier study level of inquiry	Normal and continued from earlier study level of inquiry	Normal and low level of inquiry	Normal and poor level of inquiry	Absence of inquiry
Ability to demonstrate the Learnings from the Studio	Extremely well-articulated	Very well-articulated	Well articulated	Articulated normally	Moderately Articulate	Less Articulate	Needs work	No Articulation	No Attempt
Attendance, time management and participation in Studio	100 % attendance, working and high level of interaction in the studio	80 % attendance, working and high level of interaction in the studio	75 % attendance, working and high level of interaction in the studio	70 % attendance, working and high level of interaction in the studio	65 % attendance, working and good level of interaction in the studio	60 % attendance, working and good level of interaction in the studio	55 % attendance, working and good level of interaction in the studio	50 % attendance, not working and low level of interaction in the studio	less than 50% attendance, not working and no level of interaction in the studio

COPO Mapping Setup for Sem 9

CO-PO mapping for a course of “UG program”									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To analyse the frameworks leading to the situation of housing stock in the city through case studies and how practices emerged in response to various planning regulations	3	1	2	1	3	2	2	3
CO2	To evaluate the legal frameworks related with land and building and their role in developing ideological positions in practice	3	1	2	1	3	2	2	3
CO3	To understand how individuals/practices have situated themselves within the architectural profession	2	0	1	1	3	3	3	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 911	COURSE NAME	Design Dissertation I	SEMESTER	Nine	CREDITS	4
	FACULTY	Rohan, Paul, Ainsley, Pinkish, Nikhil, Apurva, Vandana, Kimaya, Shilpa R, TA: Vyoma	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	External viva-50 marks
	TIME	Tuesday & Friday (1:20-3:00 PM)	TEACHING HOURS	200 mins	TIME REQUIRED OUTSIDE OF CLASS	2 hr

UNIVERSITY COURSE DESCRIPTION	Volume 01 - Writing
PEDAGOGIC INTENT	The course is aimed at developing the argument structure for the final year thesis dissertation.
METHODOLOGY	Discussions and Writings

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVER ABLE
week 1		4 Jun 19	Defining the Area of Study		
		7 Jun 19			
week 2		11 Jun 19	Defining the Area of Study		
		14 Jun 19	Lecture: What is a Thesis?		
week 3		18 Jun 19	Defining the Area of Study		
		21 Jun 19			
week 4		25 Jun 19	Preparing a Reading List		
		28 Jun 19	Lecture: On Representation		
week 5		2 Jul 19	Building a Repository of Images / ideas		
		5 Jul 19	Presentation: Volume Case Study 1		
week 6		9 Jul 19	Developing an Argument Structure		
		12 Jul 19	Lecture on Academic Ethics		
week 7		16 Jul 19	Preparing an Abstract		
		19 Jul 19	Using Images as arguments		
Week 8		23 Jul 19	Framing a Title		
		26 Jul 19	Presentation: Volume Case Study 2		
Week 9		30 Jul 19	Writing the Introduction		
		2 Aug 19	Lecture: Styles and Conventions of Research Writing		
Week 10		6 Aug 19	Writing the Introduction		
		9 Aug 19	Presentation: Volume Case Study 3		
Week 11		13 Aug 19	Writing the Conclusion		
		16 Aug 19			
Week 12		20 Aug 19			
		23 Aug 19			
Week 13		27 Aug 19			
		30 Aug 23	Writing the Chapters		
Week 14		10 Sep 19			
		13 Sep 19			
Week 15		17 Sep 19			
		20 Sep 19			
Week 16		24 Sep 19			
		27 Sep 19			

EVALUATION CRITERIA	Writings
LEARNING OUTCOMES	
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Design Dissertation*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Design Dissertation
Course Code: BARD 911
Sem: 9

Name - 2019-2020

Course Objectives: The course is aimed at developing the argument structure for the final year thesis dissertation.

Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines, Ethics based etc)

Course Outcome (Co)	Description
CO1	Enabling the students to explore and research specific topics related to their field of interest. Develop research ability and skills for writing and presenting a thesis report.
CO2	Analyze and evaluate the built environment and sites.
CO3	Create modes for reflexive thinking through research.
CO4	Understanding of the theoretical and applied research methodologies and practices used during the design process.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
2019-2020	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
FIFTH YEAR - SEM 9	**Design Dissertation**	**911**		**100**		**4**			
Exercise: Title									
Exercise Note / Task									
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Nature of Inquiry/ Intent of Thesis – Aims and Objectives	Exceptional	Outstanding	Excellent	Sophisticated	Very Good	Good	Fair	Satisfactory	Poor
Rigor of research/ Site Study and Methodology	Exceptional understanding of analyzing and understanding site.	Outstanding understanding of analyzing and understanding site.	Excellent understanding of analyzing and understanding site.	Sophisticated understanding of analyzing and understanding site.	Very good understanding of analyzing and understanding site.	Good understanding of analyzing and understanding site.	Fair understanding of analyzing and understanding site.	Satisfactory understanding of analyzing and understanding site.	Poor understanding of analyzing and understanding site.
Argument Building/ Narrative	Exceptional argument and narrative building to support the intent (aims and objectives) of the thesis.	Outstanding argument and narrative building to support the intent (aims and objectives) of the thesis.	Excellent argument and narrative building to support the intent (aims and objectives) of the thesis.	Sophisticated argument and narrative building to support the intent (aims and objectives) of the thesis.	Very Good argument and narrative building to support the intent (aims and objectives) of the thesis.	Good argument and narrative building to support the intent (aims and objectives) of the thesis.	Fair argument and narrative building to support the intent (aims and objectives) of the thesis.	Satisfactory argument and narrative building to support the intent (aims and objectives) of the thesis.	Poorargument and narrative building to support the intent (aims and objectives) of the thesis.
Articulation of research and compilation of thesis	Exceptional articulation of research and compilation of the final design proposal	Outstanding articulation of research and compilation of the final design proposal	Excellent articulation of research and compilation of the final design proposal	Sophisticated articulation of research and compilation of the final design proposal	Very Good articulation of research and compilation of the final design proposal	Good articulation of research and compilation of the final design proposal	Fair articulation of research and compilation of the final design proposal	Satisfactory articulation of research and compilation of the final design proposal	Poor articulation of research and compilation of the final design proposal

COPO Mapping Setup for **SEM 9**

CO-PO mapping for a course of "UG Program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Enabling the students to explore and research specific topics related to their field of interest. Develop research ability and skills for writing and presenting a thesis report.	3	3	3	1	1	1	0	1
CO2	Analyze and evaluate the built environment and sites.	1	1	1	0	0	2	2	1
CO3	Create modes for reflexive thinking through research.	3	2	3	1	0	2	2	2
CO4	Understanding of the theoretical and applied research methodologies and practices used during the design process.	3	3	3	0	0	2	2	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

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Semester 10

Scheme of Teaching and Examinations

Scheme of Teaching and Examinations
Bachelor of Architecture (B. Arch.)

Semester X

	Semester X Exam conducted by University of Mumbai	Teaching Scheme		Credits		
COURSE CODE.	COURSES	Lecture	Studio	Theory	Studio	Tota
BARC 1006	Environmental studies 5 (Building sciences and sustainability)	2	8 classes of technology studio	2	1	3
BARC 1007	Architectural representation & detailing 9				6	6
BARC 1012	Advanced Building Construction and structures	2		2	1	3
BARC 1009	Advanced Theories 4			2		2
BARC 1010	Professional Practice 3	2		2		2
BARD 1011	Design Dissertation 2		16		16	16
BARE 1021	Elective 10		4		4	4
	Total	2	34	2	34	36

	Semester X Exam conducted by University of Mumbai	Examination Scheme			
COURSE CODE	COURSES	Theory (paper)	Internal	External viva	Total
BARC 1006	Environmental studies 5 (Building sciences and sustainability)		100		100
BARC 1007	Architectural representation & detailing 9		100	100	200
BARC 1012	Advanced Building Construction and structures		100		100
BARC 1009	Architectural Theories 4		50		50
BARC 1010	Professional Practice 3		50		50
BARD 1011	Design Dissertation 2		200	200	400
BARE 1021	Elective 9		100		100
	Total		700	300	1000

Semester 10

Semester 10

Time-Table

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8.00 - 8.50	**Environmental Studies**	**Design Dissertation**	**Architectural Building Construction**	**Advanced Theories**	**Design Dissertation**	
	BARC 1006 *3*	*BARD 1011* *7 of 16*	barc 1012, BARC 1006 3	*barc 1009* *2*	*BARD 1011* *7 of 16*	
8.50 - 9.40	minnal Kimaya	Rohan, Paul, Ainsley, Pinkish, Manoj, Vandana, Nikhil, Kalpit, Apurva, Advait, Mayuri, Shhraddha, Shhantanu, Nemish, Jimmy, Sonal, Shweta, Shirish, George, Kimaya. TA- Pooja Bhave	Vikram, Devesh, raj, kimaya, minal	Rohit Goel Amisha	Rohan, Paul, Ainsley, Pinkish, Manoj, Vandana, Nikhil, Kalpit, Apurva, Advait, Mayuri, Shhraddha, Shhantanu, Nemish, Jimmy, Sonal, Shweta, Shirish, George, Kimaya. TA- Pooja Bhave	
9.40 - 10.30				**Architectural Representation and Detailing**		
				barc 1007 *6*		
10.30 - 11.20	**Design Dissertation**			George Vikram		
	BARD 1011 *2 of 16*			Devesh, Rajitha, raj, kimaya		
11.20 - 12.00						
12.00-12.50	Rohan, Paul, Ainsley, Pinkish, Manoj, Vandana, Nikhil, Kalpit, Apurva, Advait, Mayuri, Shhraddha, Shhantanu, Nemish, Jimmy, Sonal, Shweta, Shirish, George, Kimaya. TA- Pooja Bhave		Encounter			
12.50 - 1.20						
1.20 - 2.10	**Professional Practice**		**Architectural Representation and Detailing**			
	barc 1010 *2*		*barc 1007* *6*			
2.10 - 3.00	Mamta Shantanu K		George Vikram			
			Devesh, Rajitha, raj, kimaya			

BARC 1006

COURSE CODE	EVS	**CREDITS**	3
COURSE NAME	Environmental Studies V	**SESSIONAL MARKS**	100
FACULTY	Kimaya K, Minal Y	**EXAM SCHEME**	Internal
CLASS DAY/TIME	Monday 08:00-10:30	**NON-CLASS TIME**	2 hours

PEDAGOGIC INTENT	Course focusses on engaging students at urban scale dealing with urban issues and sustainability parameters. Analysing data to be able to implement design strategies with respect to site/context, understanding various technologies for efficient resource management creating low environmental impact built forms.

COURSE METHODOLOGY	Theory Lectures showcasing design projects and Discussions

WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	25.11.2019	Case studies – Site analysis and representation of Data	Post Occupancy Evaluation- Recommendations and Design solutions	100%
2	02.12.2019	Case studies – Site planning and Master Planning		
3	09.12.2019	Site strategy and Implementation		
4	16.12.2019	Site strategies for eco-sensitive sites		
5	23.12.2019	Site strategies for Brownfield Site (Quarry)		
6	06.01.2020	Restoration and Rejuvenation methods for brown field sites		
7	13.01.2020	Case Studies – Climate responsive Design		
8	20.01.2020	Case Studies - Façade Development		
9	27.01.2020	Case Studies - Biomimicry		
10	03.02.2020	Case Studies – Energy Efficient building systems and Materiality		
11	10.02.2020	Case Studies – Energy Efficient building systems and Materiality		
12	17.02.2020	Architectural Representation for Environmental systems		
13	24.02.2020	Final submission of report and Discussion	Final submission	

LEARNING OUTCOMES	Knowledge and understanding of Environmental systems to be incorporated with their architectural design project

READING LIST/ REFERENCES	1 Handbook on Energy conscious buildings, 2 Environmental planning Anne Beer, 3 Skyscapers, KenYeang, 4 Ecological Architecture, 5 Soleri, 6 Energy Efficient buildings, 7 Environments, Technology and sustaianbility and Design with Nature, 9 Sustaianble builing in practices, 10 Responsive environments, 11 Ecohouse, 12 Green Architecture, 13 Natural Ventilation in Urban Enviornment , Greening Asia by Krishanan, Aquatecture by Robert Barker , Atlas for Sustainable Architecture by Pfammter

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Environmental Studies

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Environmental Studies 6
Course Code: BARC 1006
Sem 10
Year 19-20

Course Objectives:

- Course focusses on engaging students at urban scale dealing with urban issues and sustainability parameters.
- Analyzing data to be able to implement design strategies with respect to site/context, understanding various technologies for efficient resource management creating built forms with low environmental impact.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To identify the area of interest specific to environmental revelation.
CO2	To enable students to develop critical thinking, analytical and technical skills to inform design decisions, keeping in mind specifics of environmental ethics and justice.
CO3	To gain holistic understanding of urban sustainability while focusing on understanding sustainable development goals.
CO4	To be able to understand current urbanization-induced environmental challenges and further manage architectural complexities within urban/rural environments.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**BARC 306**	**Sessional Marks:**	**Exercise 01: Marks out of**	**Credits:**	**Date of submission**	**Upgrade 01**	**Upgrade 02**	
FIFTH YEAR-SEM10	**EVS**	**BARC 1006**	**100**	**100**	**3**	**24.02.2020**			
Exercise: Title	Post Occupancy Evaluation- Recommendations and Design solutions								
Exercise Note / Task	Report submission on Post Occupancy Evaluation								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Data Gathering / monitoring and collating	Attendance and participation in the discussions	Well curated outstanding analytical drawings and clarity in explaining the concept and archit	Very well curated outstanding analytical drawings and clarity in explaining the concept and	Excellent curation using outstanding analytical drawings and clarity in explaining the concept	Very Good curation using outstanding analytical drawings and clarity in explaining the concept	Good curation using outstanding analytical drawings and clarity in explaining the concept and	Fair curation using outstanding analytical drawings and clarity in explaining the concept and	Basic level of inquiry incorporating the minimum requirements	Arbitary and Adhoc Inquiry

		ectural design intent	architectural design intent	and architectural design intent	and architectural design intent	architectural design intent	architectural design intent		
Depth of Inquiry and ability to generate analytical drawings	Showcasing all adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing well outstanding insights adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing Outstanding insights using tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing excellent insigths using adopted tools, frameworks to develop methodology to critique and analy	Showcasing very good insigths using adopted tools, frameworks to develop methodology to critique and analy	Showcasing good insigths using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Showcasing fair insigths using adopted tools, frameworks to develop methodology to critique and analyse the data collected	Generic methods of analysis	Not informed process of adptation of tools and frameworks
Representation Technique and final submission	Very well formatted presentation of case studies explaining concepts, process adopted using digarms,	Well formatted presentation of case studies explaining concepts, process adopted using	Clear formatted presentation of case studies explaining concepts, process adopted using	Very good formatted presentation of case studies explaining concepts, process adopted	Good formatted presentation of case studies explaining concepts, process adopted using	Fairly formatted presentation of case studies explaining concepts, process adopted	Barely managed to get clarity of intent and study using poor diagams and sketches	Less clarity in terms of ideas and processes to be followed	Absolutely no clarity of thought and understanding of the subject

	sketches and assessement	digarms, sketches and assesement	digarms, sketches and assesement	using digarms, sketches and assesement	digarms, sketches and assesement	using digarms, sketches and assesement			
Attendance and participation in the discussions	100 % mental and physical presence during the class	75% attendance and superoutstanding participation	75% attendance and outstanding participation	75% attendance and excellent participation	75% attendance and very good participation	75% attendance and good participation	75% attendance and Fair participation	75% attendance and average participation	Poor participation and absence

COPO Mapping Setup for Sem 10

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To identify the area of interest specific to environmental revelation.	3	1	1	2	1	2	2	3
CO2	To enable students to develop critical thinking, analytical and technical skills to inform design decisions, keeping in mind specifics of environmental ethics and justice.	3	2	2	1	1	2	2	2
CO3	To gain holistic understanding of urban sustainability while focusing on understanding sustainable development goals.	3	1	1	2	2	2	2	2
CO4	To be able to understand current urbanization-induced environmental challenges and further manage architectural complexities within urban/rural environments.	2	2	2	2	1	2	3	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 1007					
COURSE NAME	Architectural Representation and Detailing IX	SEMESTER	10	CREDITS	6
FACULTY	George, Vikram, Devesh, Rajitha, Raj, Kimaya	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	External viva -100
TIME	Thursday (8.00 to 11.20)	TEACHING HOURS	3 hours 20 min per week	TIME REQUIRED OUTSIDE OF CLASS	2 hours a week

what	UNIVERSITY COURSE DESCRIPTION	The students are expected to submit a Report to describe: Structural System, Method of Construction and materials. Active and Passive systems related to building sciences and enviornment protection. Required drawing: Detailed sections showing structural system.
why	PEDAGOGIC INTENT	To emphasise on scientific and exploratory attitude in developing culturally and environmentally more responsive and richer architecture; material and system usage and detailing.
how	METHODOLOGY	Mentoring Individually as per their thesis intent and objectives; Presentations of case studies and lectures by previous years students; creating exercises as per individual thesis requirements thereby prodding them to explore systems (structural, ecological, MEP etc.) through case studies and resolve the designs using industry standards/ customised solutions, develop explanatory models, drawings of systems and detailing.

when: SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	1	21-Nov-19	Acquanting with Individual Thesis		
week 2	2	28-Nov-19	Inputs for technical requirements & program		
week 3	3	5-Dec-19	Studio Interactions (program, site & concept diagram)		
week 4	4	12-Dec-19	Jury (program, site & concept diagram)	20	Site sections and Plans along with site related data
week 5	5	2-Jan-20	Thesis presentation & Interaction 1 / Studio Interactions		
week 6	6	9-Jan-20	Studio Interactions		
week 7	7	16-Jan-20	Jury (structural diagram explorations & grid)	20	Minimum two Case studies related to Dissertation
week 8	8	23-Jan-20	Thesis presentation & Interaction 2 / Studio Interactions		
week 9	9	30-Jan-20	Studio Interactions		
weeK 10	10	6-Feb-20	Thesis presentation & Interaction 3 /Studio Interactions		
week 11	11	13-Feb-20	Studio Interactions	20	Cross Section of Façade, All Floor Plans and 02
week 12	12	20-Feb-20	Jury (Envelope explorations, site outlay)		
week13	3	27-Feb-20	Thesis presentation & Interaction 4 /Studio Interactions		
week 14	14	5-Mar-20	Studio Interactions		
Week 15	15	12-Mar-20	Studio Interactions		
Week 16	16	19-Mar-20	Jury (Final)	40	Drawings supported by A3 Report

EVALUATION CRITERIA	Progressive development of thesis dissertation. Explorations related with realising the conceptual diagrams. Resolution of design related with systems, material and envelop; Design response considering Site (terrain/ context understanding &representation), Services, Climate and construction techniques & processes.
LEARNING OUTCOMES	Building Ability and Confidence within students to resolve their dissertations projects such that they are able to convince the jurors of their buildability.
READING LIST	Structural system by Henrich Engel, Construction material methods and techniques by Spence and Kultermann, Fundamentals of Building Construction by Allen and Iano

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Representation and Detailing 9*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
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3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity.

(Individual / Collective)

6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: ***Architectural Representation and Detailing 9***
Course Code: BARC 1007

Sem 10

Name - 2019-20

Course Objectives:

1. To enable students to make decisions about the directions for their future practices through reflexive thinking and research further to their learning in earlier 4 years.
2. To enable an intersection of architectural practice with the academic space where both the school and the students make choices based on their particular interest.
3. To bring into the academic space, explorations of particular interests in the city.
4. To continue to urge students to pursue their interest in systemic understanding of architecture as tectonic as well as environmental.
5. To explore complex built forms through integration with archetype resolutions.
6. To urge students to develop an ethical choice for practice in context to the role that architecture should take on, in relation to history, ecology and making a more fair world.

Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines, Ethics based etc)

Course Outcome (Co)	Description
CO1	They develop an intuitive understanding of the various building systems and proportionate sizes of the components and are able to visualise their concepts as material objects subjected to natural forces, usage and constructional possibilities.
CO2	Analysis of built form from structural perspective; climatic factors and the building elements response to it; the materials used in making the built form and the various elements; visualising process of construction on site; and anticipating behaviour of the structure over its expected life span forms the core scope of technology pedagogy.
CO3	They are able to develop and represent a substantially sound technical proposal.
CO4	They refer to appropriate resources (case studies, standards, technical literature, guidelines, handbooks, codes, etc.) as required while arriving at solutions to the design problems. In absence of suitable standards, they are able to custom design details befitting their core idea.
CO5	They develop empathy towards craft and craftsmanship and they themselves inculcate a practice of doing “hands-on” wherever the opportunity is available.

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**		**University Subject Code**	**Sessional Marks:**	**Exercise: Marks out of**	**Credits**	**Date of submission**		
FIFTH YEAR - SEM 10	**Architectural Representation & Detailing-9**		**BARC 1007**	**100**	**100**	**6**			
Exercise: Title	Resolution Studio								
Exercise Note / Task	Evolving systemic concepts of the dissertation & representing related/ significant technologies								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Analytical skills	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Representation through drawings	Innovative. Experimental and Bold Clarity. Expressive of relevance.	Very impressive. Highly demonstrative.	Impressive attempt to go beyond requirement. Excellent presentation of ideas.	Demonstrative. Very good attempt to present ideas.	Has gone beyond the requirement. More than adequate attempt to present ideas.	Attempts to express and go beyond the requirement. Just adequate	No further enquiry. Barely encourages a discussion. Needs clarity	No further enquiry. Does not encourage a discussion	Does not complete the assignment
Ideas for synthesis drawings	Innovative. Experimental and Bold Clarity.	Very impressive. Highly demonstrative.	Excellent presentation of ideas.	Very good attempt to present ideas.	More than adequate attempt to present ideas.	Just adequate attempt to present ideas.	No further enquiry.	No further enquiry.	Does not complete the assignment
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem ……

CO-PO mapping for a course of "PG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Intuitive Understanding of Systems	3	3	3	2	2	3	3	2
CO2	Structural and Construction soundness	3	3	3	2	2	3	3	3
CO3	Representing technically feasible proposal	3	3	3	3	2	3	3	3
CO4	Referencing & Innovations in Detailing.	3	3	3	3	2	3	3	3
CO5	Empathy towards craft and craftsmanship	2	2	3	3	2	3	2	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 1012	COURSE NAME	Architectural Building Construction & Structures	SEMESTER	10	CREDITS	3 + 1 EVS
	FACULTY	Vikram, Devesh, Raj, Kimaya, Minal	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	Internal
	TIME	8.00-8.50, 8.50-9.40 , 9.40-10.30	TEACHING HOURS	Lectures-36periods of 50 minutes duration- 30 hours Studio- 18 periods of 50 minutes duration- 15 hours	TIME REQUIRED OUTSIDE OF CLASS	-

UNIVERSITY COURSE DESCRIPTION	
PEDAGOGIC INTENT	*To emphasise on scientific and exploratory atittude in developing culturally and environmentally more responsive and richer architecture; material and system usage and detailing.*
METHOD	Mentoring Individually as per their thesis intent and objectives; Presentations of case studies and lectures by previous years students; creating exercises as per individual thesis requirements thereby prodding them to explore systems (structural, ecological, MEP etc.) through case studies and resolve the designs using industry standards/ customised solutions, develop explanatory models, drawings of systems and detailing.

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTIO	ASSIGNMENT/DELIVERABLE
week 1	Wednesday	23/11/19	Acquainting with individual thesis		
week 2	Wednesday	30/11/19	Inputs for technical requirements & program		
week 3	Wednesday	7/2/19	Studio interactions (program, site & concept diagram)		
week 4	Wednesday	4/1/20	Jury (program, site & concept diagram)		
week 5	Wednesday	11/1/20	Thesis presentation and interaction 1/ Studio interactions		
week 6	Wednesday	18/1/20	Studio interactions		
week 7	Wednesday	25/1/20	Holiday		
week 8	Wednesday	1/2/20	Thesis presentation & interaction 2	10	
week 9	Wednesday	8/2/20	Studio interactions		
week 10	Wednesday	15/2/20	Thesis presentation & interaction 3 / Studio interactions		
week 11	Wednesday	22/2/20	Studio interactions		
week 12	Wednesday	1/3/20	Jury (envelop explorations, site outlay)	15	
week 13	Wednesday	8/3/20	Thesis presentation & interaction 4 / Studio interactions		
week 14	Wednesday	15/3/20	Studio interactions		
week 15	Wednesday	22/3/20	Studio interactions		
week 16	Wednesday	29/3/20	Jury Final 3	25	FInal

EVALUATION CRITERIA	*Progressive development of thesis dissertation. Explorations related with realising the conceptual diagrams. Resolution of design related with systems, material and envelop; Design response considering Site (terrain/ context understanding &representation), Services, Climate and construction techniques & processes.*
LEARNING OUTCOMES	*Building Ability and Confidence within students to resolve their dissertations projects such that they are able to convince the jurors of their buildability.*
READING LIST	Structural system by Henrich Engel, Construction material methods and techniques by Spence and Kultermann, Fundamentals of Building Construction by Allen and Iano

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Architectural Building Construction*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Architectural Building Construction
Course Code: BARC 1012

Sem 10

Name - Fifth

Course Objectives:

To emphasise on scientific and exploratory aptitude in developing culturally and environmentally more responsive and richer architecture; material and system usage and detailing.

Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines, Ethics based etc)

Course Outcome (Co)	Description
CO1	**To analyse thesis projects and attempt technological interventions to the design proposals**
CO2	**To create analytical physical models and studies based on the learnings of the lectures and relate them.**
CO3	**To understand the technical aspects of large scale projects including infrastructure, MEP, ecology, systems, etc.**

Rubrics:

Year of Assessment: 2019-20	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
FIFTH YEAR SEM 10	**Architectural Building Construction**	**BARC 1012**	**BARC 1012**	**100**		**3**			
Exercise: Title	Application of technology on dissertation projects								
Exercise Note / Task	Reports, Panels and or Physical study models of interventions co related to the thesis proposals								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Understanding and application of systems to design proposals	**Thorough understanding of explored interventions**	**Very good understanding of explored interventions**	**Good understanding of explored interventions**	**Fair understanding of explored interventions**	**Satisfactory understanding of explored interventions**	**Understanding of explored interventions**	**Below average understanding of explored interventions**	**Poor understanding of explored interventions**	**No understanding of explored interventions**
Representation Technique and final submission	**Very well formatted presentation**	**Well formatted presentation**	**Clear formatted presentation**	**Very good formatted presentation**	**Good formatted presentation**	**Fairly formatted presentation**	**Barely managed to get clarity of intent**	**Less clarity in terms of ideas and processes**	**Absolute no clarity of thought and understanding of the subject**
Participation in Class	**Attends less than 95% of total classes**	**Attends less than 90% of total classes**	**Attends less than 85 % of total classe**	**Attends less than 75 % of total classe**	**Attends less than 70 % of total classes**	**Attends less than 65 % of total classes**	**Attends less than 60 % of total classes**	**Attends less than 55 % of total classes**	**Attends less than 50 % of total classes**

COPO Mapping Setup for Sem 10

CO-PO mapping for a course of 'UG Program									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	**To analyse thesis projects and attempt technological interventions to the design proposals**	2	2	2	1	0	3	3	3
CO2	**To create analytical physical models and studies based on the learnings of the lectures and relate them.**	2	2	2	0	3	2	2	1
CO3	**To understand the technical aspects of large scale projects including infrastructure, MEP, ecology, systems, etc.**	2	2	2	1	3	2	2	1

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

1009					
COURSE NAME	Architectural Theories 4	SEMESTER	10	CREDITS	2
FACULTY	Kaiwan Mehta	SESSIONAL MARKS	100	SCHEME OF EXAMINATION	sessional marking
TIME	Saturday 11.20-1.00	TEACHING HOURS	100 mins	TIME REQUIRED OUTSIDE OF CLASS	1 hour

UNIVERSITY COURSE DESCRIPTION	*Theory is an integral aspect of cultural analysis of which architecture is central. The objective of eraning in this semester is to make students aware of the current discourses in architecture through a direct interaction with architectural thinking and ideas.*
PEDAGOGIC INTENT	*The course will look at the production of culture by understanding artistic practices and through the experience of reading works of art. The architect who works within the sphere of culture and society is constantly required to perceive and understand human life and sociality beyond the everyday encounter with life; for which s/he needs to be equipped with 'ways of seeing' the world and understanding how nuanced and complex readings of the world are produced. Being trained in understanding artistic practices is one way of bridging this requirement, and the course will expose students too, as well as provide some basic training in reading and understanding works of art.*
METHODOLOGY	**Lectures, in-class and take home exercises, reading discussions**

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Saturday		*How do we understand culture?*		
week 2	Saturday		*The relationship of culture to nation and neighbourhood*		
week 3					
week 4	Saturday		*Artistic practices - and what they mean, what do they do*		
week 5					
week 6	Saturday		*Reading and experiencing artistic works:*		
week 7					
week 8	Saturday		*Study of the poem HOWL - as text, and as film, and animation (graphic novel)*		
week 9					
week 10	Saturday		*Reading architectural descriptions of space and the built environment - critical representations through texts/books, journals/magazines, exhibitions/curatorial engagements*		
week 11					
week 12	Saturday		*Reading literary descriptions of Space - Georges Perec / Walter*	**100**	**Paper Submission**

EVALUATION CRITERIA	*TBA*
LEARNING OUTCOMES	
READING LIST	TBA

CO-PO mapped syllabi of B.Arch Course 2019-2020 – Advanced Theories 4

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Advanced Theories 4 **Course Code:** BARC 1009 **Sem** 10

Name - Fifth

Course Objectives:

- To enable students to get familiar with various important thinkers, and work that shaped the contemporary world of art and architecture.
- To understand the idea of structuralism and language as a structure
- To learn to apply different critical tools (collage , image analysis) which helps to examine concepts from the history of art and architecture, as well as contemporary architecture cultures
- To enable students to understand and discuss fairly complex theoretical text by breaking it into sections distributed across class.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand and create different frameworks of analysis and skills of critical thinking that employed comparative (across mediums, across objects) and analytical (through a close reading) method.
CO2	To create skills of reading concepts, habit of conceptual enquiry and argumentation across forms and mediums across history of art and architecture, as well as contemporary architecture cultures.
CO3	To evaluate history of important ideas and their relationships to contemporary ideas and phenomena that shaped the world.

Rubrics:

Year of Assessment : 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**University Subject Code**	**Sessional Marks:**	**Exercise: Marks out of**	**Credits**	**Date of submission**			
Fifth YEAR - SEM 10	**Advanced Theories**	**BARC 1009**	**50**	**50**	**2**				
Exercise: Title	Production of culture by understanding artistic practices								
Exercise Note / Task	Reading of the texts provided. Illustrating the concepts through the selection of appropriate spatial/architectural examples from the contemporary world and through history and writing a piece to express once own position about the same.								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% - 55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Identifying new areas and possibilities within architectural or spatial thinking.	Exceptional Ability to critically examine and raise new possibilities and questions within the conceptual framework. Relationship to the contemporary context and futures identified in new innovative ways.	Outstanding Ability to critically examine and raise new possibilities and questions within the conceptual framework. Relationship to the contemporary context and futures identified in new innovative ways.	Excellent ability to critically examine and raise new possibilities and questions within the conceptual framework. Relationship to the contemporary context and futures identified in new innovative ways..	Very good ability to critically examine and raise new possibilities and questions within the conceptual framework. Relationship to the contemporary context and futures identified in new innovative ways..	More than adequate Ability to critically examine and raise new possibilities and questions within the conceptual framework. Relationship to the contemporary context and futures identified in new innovative ways.	Just adequate Ability to critically examine and raise new possibilities and questions within the conceptual framework. Relationship to the contemporary context and futures identified in new innovative ways..	Very poor Ability to critically examine and raise new possibilities and questions within the conceptual framework. Relationship to the contemporary context and futures identified in new innovative ways..	No Ability to critically examine and raise new possibilities and questions within the conceptual framework. Relationship to the contemporary context and futures identified in new innovative ways..	Does not complete the assignment
Understanding and interpretation of the given theoretical text and expression in writing	Exceptional ability to understand and interpret the concepts within the reading material provided. Expressed in original ways. Original conceptual diagrams and references made. A clarification of method of analysis provided that is lucid and innovative.	Outstanding ability to understand and interpret the concepts within the reading material provided. Expressed in original ways. Original conceptual diagrams and references made. A clarification of method of analysis provided.	Outstanding ability to understand and interpret the concepts within the reading material provided. Expressed in original ways. Original conceptual diagrams and references made.	Excellent ability to understand and interpret the concepts within the reading material provided. Expressed in original ways.	A very good understanding and interpret the concepts within the reading material provided.	A good understanding and interpret the concepts within the reading material provided.	Above average ability to understand and interpret the concepts within the reading material provided.	An average ability to understand and interpret the concepts within the reading material provided.	A lack of any attempt to understand and interpret the concepts within the reading material provided. Plagiarised content and interpretations. Without understanding. No engagement with the concept under investigation.
Participation in Studio	Attends more than 90% of total classes	Attends 86 to 90% of total classes	Attends 76 to 85 % of total classes	Attends 71 to 75 % of total classes	Attends 66 to 70 % of total classes	Attends 61 to 65 % of total classes	Attends 56 to 60 % of total classes	Attends 51 to 55 % of total classes	Attends less than 50 % of total classes

COPO Mapping Setup for Sem 10

CO-PO mapping for a course of "UG Program "									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To understand and create different frameworks of analysis and skills of critical thinking that employed comparative (across mediums, across objects) and analytical (through a close reading) method.	3	2	3	1	2	0	1	0
CO2	To create skills of reading concepts, habit of conceptual enquiry and argumentation across forms and mediums across history of art and architecture, as well as contemporary architecture cultures.	2	2	3	1	0	0	2	0
CO3	To evaluate history of important ideas and their relationships to contemporary ideas and phenomena that shaped the world.	1	0	2	3	1	0	3	2

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARC 1010						
	COURSE NAME	Professional Practice	SEMESTER	X	CREDITS	3
	FACULTY	Mamta, Shantanu	SESSIONAL MARKS	50	SCHEME OF EXAMINATION	Internal: 50
	TIME	12-12:50; 1;20-2:10 pm	TEACHING HOURS	1.6	TIME REQUIRED OUTSIDE OF CLASS	12
UNIVERSITY COURSE DESCRIPTION	NA					
PEDAGOGIC INTENT	*"Architecture has become an adaptable enterprise for a world that requires nimbleness, pragmatism, and no small amount of ingenuity" - Robert A. Ivy, FAIA. It aims to illustrate the legal, ethical and management concepts underlying the practice of architecture and give a critical orientation towards a career in architectural practice. The field of architecture occupies a unique position at the intersection of art, technology and social science. In India, the practice of architecture and the education of an architect are both governed by the same regulatory body. Therefore, unlike what is the global norm, the procurement of a degree is seen as enough qualification for licenciation. What follows, therefore, is that educational institutions have a responsibility of training their students to be able to integrate the process of design with basic criteria of professional competence such as the ability to design in conformance with existing legislative frameworks and work within the norms of ethical practice.*					
METHODOLOGY	**The course of Professional practice seeks to achieve this by making students aware of these frameworks. Architectural practice both affects and is in turn affected by forces that lie beyond the purview of what are typically seen as the boundaries of expertise of an architect. Legal and financial aspects of a project form a major part of these forces.** **In order to understand this impact, students will be given readings and case studies which demonstrate the effect of these forces on various projects. In addition, students will be asked to look at their own dissertation projects through the lens of how existing building codes and bye-laws may affect them.**					

SCHEDULE	DAY	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
week 1	Monday	18-11-2019	***Introduction to the course module that will deal with the question of Land, planning and environment in relation with the existing housing stock in the city.***		
week 2	Monday	25-11-2019	***Discussion on escalation in demand for affordable housing post independance. Formulation of various bodies and policies pre and post independence***		
week 3	Monday	02-12-2019	***Dichotomy of demand and supply of affordable housing, financialization of housing as a resultant of FSI Incentivization)***		
week 4	Monday	09-12-2019	***Dichotomy of demand and supply of affordable housing, financialization of housing as a resultant of FSI Incentivization)***		
	Electives+KRMLS+Winter Break				
week 5	Monday	30-12-2019	***The politics of the rent control act and its implications. Tracing the trajectory of tools implemented for procuring land in the city through various acts.***		
week 6	Monday	06-01-2020	***The politics of the rent control act and its implications. Tracing the trajectory of tools implemented for procuring land in the city through various acts.***		
week 7	Monday	13-01-2020	***Site study. Understanding of Fsi norms as per DCR 2031***	*10*	
week 8	Monday	20-01-2020	***Site study. Understanding of Fsi norms as per DCR 2032***		
week 9	Monday	27-01-2020	***Site study. Understanding of Fsi norms as per DCR 2033***		
week 10	Monday	03-02-2020	***Site study. Understanding of Fsi norms as per DCR 2034***		
week 11	Monday	10-02-2020	***Site study. Understanding of Fsi norms as per DCR 2034***	10	
week 12	Monday	17-02-2020	***Study of built form implcations due to Fsi implementation***		
week 13	Monday	24-02-2020	***Study of built form implcations due to Fsi implementation***	10	
week 14	Monday	02-03-2020	***Presentation of implementation of policies on the selected sites***		
week 15	Monday	09-03-2020	***Presentation of implementation of policies on the selected sites***		
week 16	Monday	16-03-2020	***Presentation of implementation of policies on the selected sites***	**20**	

EVALUATION CRITERIA	*Evaluation will based on how students are able to articulate themnselves, accuracy on framing clauses in contracts, conducting case studies to understand positions*
LEARNING OUTCOMES	*Encourage students to become entrepreneurs and enable them to set out as the next generation of innovative architects*
READING LIST	Professional Practice by **Roshan Namavati**; Theory & Practice of Valuation by **Roshan Namavati;** Professional Practice in India – **Madhav Deobhakta** Valuation relating to standard rent by **Roshan Namavati.** Law of Arbitration by **B.S Patil** Arbitration Act & Procedure by **Singh.** Handbook on Housing_FSI_Crowding_Densities HANDBOOK ON URBAN LAWS AND POLICIES THAT IMPACT HOUSING VOL- II (1) Changing Concepts of Proprietory Rights by **Roshan Namavati.** Maharashtra Regional & Town Planning Act. DCR 2034

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Professional Practice 3*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Professional Practice 3 Course Code: BARC 1010 Sem 10 Fifth Year

Course Objectives:
The course aims to examine the role played by government bodies to deal with the dichotomy of demand and supply of affordable housing stock in the city

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	**To evaluate the role of government institutions and bodies in shaping the affordable housing stock in the city**
CO2	**To understand the role that practices play in creation of affordable housing stock in the city**
CO3	**To analyse ethical positions taken up by practices to contribute responsibly to the society, fellow professionals as well as the profession itself**

Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
Year & Sem	**Subject:**	**University Subject Code**		**Sessional Marks: 50**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
19-20 FIFTH YEAR - SEM 10	**Professional Practice III**	**BARC 1010**			**50**	**3**			
Exercise: Title	Planning and Judicial frameworks								
Exercise Note / Task	To analyse the frameworks leading to the situation of housing stock in the city through case studies and how practices emerged in response to various planning regulations								
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% - 40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Lenses of inquiry	Extremely complex, new and original level of inquiry	Extremely complex, and comparatively new and comparatively original level of inquiry	Complex, and original level of inquiry	Moderate and original level of inquiry	Moderate and continued from earlier study level of inquiry	Normal and continued from earlier study level of inquiry	Normal and low level of inquiry	Normal and poor level of inquiry	Absence of inquiry
Ability to demonstrate the Learnings from the Studio	Extremely well-articulated	Very well-articulated	Well articulated	Articulated normally	Moderately Articulate	Less Articulate	Needs work	No Articulation	No Attempt
Attendance, time management and participation in Studio	100 % attendance, working and high level of interaction in the studio	80 % attendance, working and high level of interaction in the studio	75 % attendance, working and high level of interaction in the studio	70 % attendance, working and high level of interaction in the studio	65 % attendance, working and good level of interaction in the studio	60 % attendance, working and good level of interaction in the studio	55 % attendance, working and good level of interaction in the studio	50 % attendance, not working and low level of interaction in the studio	less than 50% attendance, not working and no level of interaction in the studio

COPO Mapping Setup for Sem 10

CO-PO mapping for a course of “UG program”									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Same written above in the CO(course outcome table)	2	1	2	1	3	2	2	2
CO2	Same written above in the CO(course outcome table)	3	1	2	1	3	2	2	3
CO3	Same written above in the CO(course outcome table)	2	0	1	2	3	3	3	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation

BARD 1011						
	COURSE NAME	Design Dissertation II	SEMESTER	10	CREDITS	16
	FACULTY	Paul, Vandana, Rohan, Pinkish, Ainsley, Manoj, Jamshed, Kimaya, Ginella, George, Sonal, Shirish, Advait, Kalpit, Mayuri, Shraddha, Shweta, Nikhil, Nemish, Apurva	SESSIONAL MARKS	Internal - 200	SCHEME OF EXAMINATION	External Viva - 200
	TIME	8.00 - 11.20	TEACHING HOURS		TIME REQUIRED OUTSIDE OF CLASS	

UNIVERSITY COURSE DESCRIPTION	Collection and analysis of data relation to the Thesis Dissertation Topic chosen. Application of technical knowledge to design detailing. Understanding the impact to other factors and users requirements. Study of climatic condition, site analysis, site planning.
PEDAGOGIC INTENT	
METHODOLOGY	

SCHEDULE	WEEK	DATE	TEACHING CONTENT OF THE DAY	MARKING DISTRIBUTION	ASSIGNMENT/DELIVERABLE
	Week 1	18-22 November	Studio Discussions		AtmospheresSuggested deliverables : sketches, views, collage/ montage Structural System and Tectonics Suggested deliverables : Environmental systems, building envelope, structural models, detail wall section and Elevation drawings, Language and Expression Diagramming and Representation Suggested deliverables : Drawings, Models
	Week 2	25-29 November	Studio Discussions		
	Week 3	2-6 December 2019	Studio Discussions		
	Week 4	9-13 December	Studio Discussions		
		13-12-19	Jury		
	Week 5	03-01-20	Studio Discussions		
		07-01-20	Studio Discussions		
	Week 6	10-14 January 2020	Studio Discussions		
	Week 7	17-21 January 2020	Studio Discussions		
		24-01-20	Jury		
	Week 8	27-31 January 2020	Studio Discussions		
	Week 9	3-7 February 2020	Studio Discussions		
	Week 10	10-14 February	Studio Discussions		
	Week 11	17-21 February 2020	Studio Discussions		
		21-02-20	Jury		
	Week 12	24-28 February 2020	Studio Discussions		
	Week 13	2-6 March 2020	Studio Discussions		
	Week 14	9-13 March 2020	Studio Discussions		
	Week 15	16-20 March 2020	Studio Discussions		
	Week 16	23-27 March 2020	Jury		

EVALUATION CRITERIA	Writings
LEARNING OUTCOMES	
READING LIST	

CO-PO mapped syllabi of B.Arch Course 2019-2020 – *Design Dissertation*

Program Educational Objective (PEOs): B.Arch.

1. To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
2. To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
3. To develop a culture of enquiry, a thirst to excel in a particular field of knowledge and an ability to have a broad-minded perspective on things.
4. To nurture an intent to unlearn and reinterpreted learning through the change, proceeding towards efficient and sustainable responses to varied situations.
5. To be able to assimilate knowledge to enhance spatial exploration, theorise and conceptualise ideas with respect to time and space. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools for communicating the spaces and objects around them in mediums that are abstract (both nonlinear and non-conventional as well as those that are scientific and mathematical).
2. To enable the student to delayer the self through one's associations, one's familiarity with the world around and the body as a site of personal experiences.
3. To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
4. To engage the student in enquiry through hands-on work.
5. To enable the student to script one's own project
6. To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
7. To enable the student to extract and the abstract from the experiential and center it as the basis of design
8. To enable the student to break the boundary between abstract thought and material realities
9. To enable students to discover multiple methods and tools to develop their own process of learning
10. To engage the student in collective work to build a sense of shared responsibility.

POs for UG program: B.Arch.

1. The course intends to foster individuals who can question and critique existing systems of spatial production to allow for new and inventive way of intervening as architects through critical thinking.
2. To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
3. To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete.
4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort

zones. (Self / Other)

5. To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
6. To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
7. To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
8. To enable students to question the relationship between the professional skills and role of the architect and the production of the spatial environment we inhabit. (Architect / Architecture)

Course: Design Dissertation
Course Code: BARD 1011

Sem: 10

Name - 2019-2020

Course Objectives: The Architectural Thesis is the culmination of the development of the student's knowledge, attitudes and skills over the course of studies in architecture.

Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines, Ethics based etc)

Course Outcome (Co)	Description
CO1	Develop analytical skills and apply design strategies to create a socially and ecologically responsive architecture.
CO2	Ability to respond to site characteristics, including urban context and developmental patterns, historical fabric, soil, topography, ecology, climate, and building orientation, in the development and resolution of the architecture.
CO3	Understand and develop tectonic and structural resolution. Learn to combine the systematic/methodological learning from various stages of study and analysis in the design process towards culmination of an informed design.
CO4	Develop graphical representation and presentation skills to explain architecture design proposal.

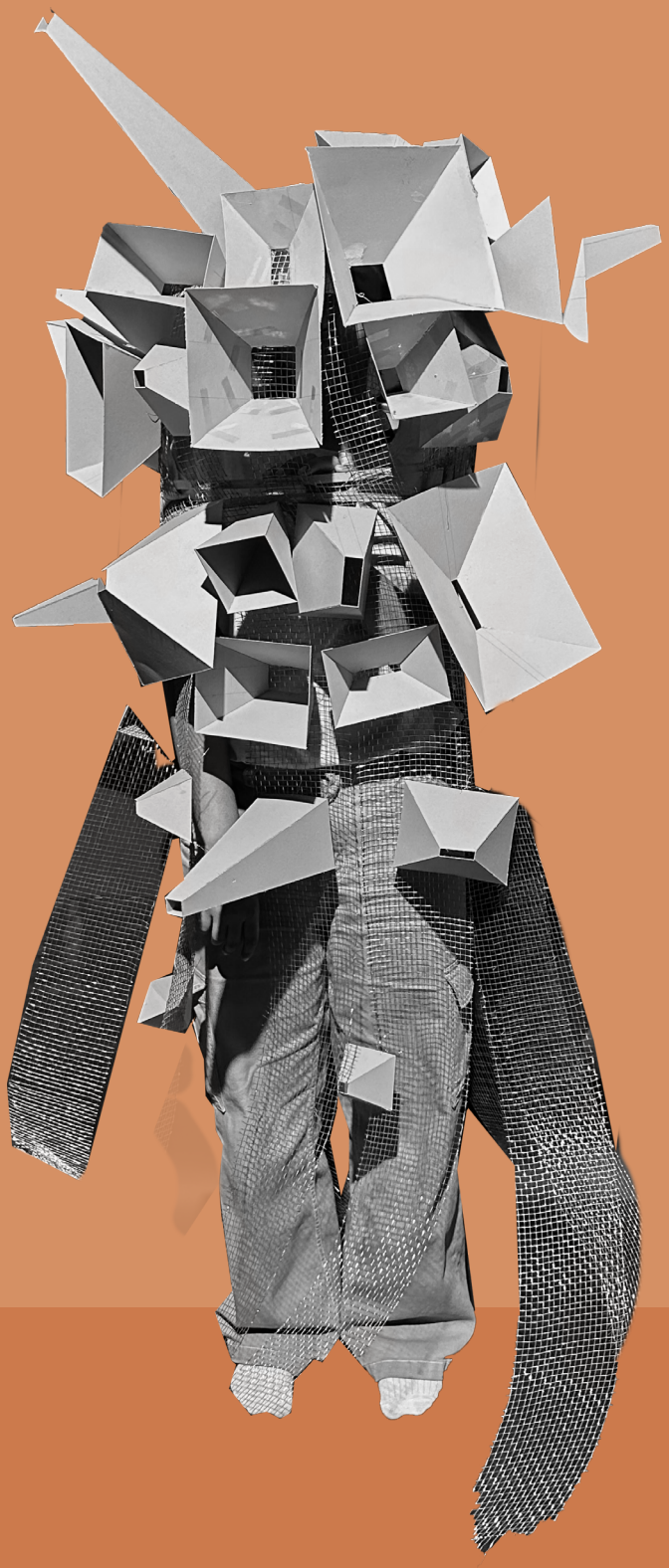
Rubrics:

Year of Assessment: 2019-2020	**USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture**								
2019-2020	**Subject:**	**Subject Code**	**University Subject Code**	**Sessional Marks: 100**	**Exercise 01 & 02: Marks out of**	**Credits**	**Date of submission**		
FIFTH YEAR - SEM 10	**Design Dissertation**		**1011**	**400**		**16**			
Exercise: Title									
Exercise Note / Task									
Assessment			**Outstanding**	**Excellent**	**Very Good**	**Good**	**Fair**	**Satisfactory**	**Fail**
Grade	**O++**	**O+**	**O**	**A**	**B**	**C**	**D**	**E**	**F**
Percentage	**90% and above**	**80%**	**79% - 75%**	**74% - 70%**	**69% - 65%**	**64% - 60%**	**59% -55%**	**54% - 50%**	**49% -40%**
Equivalent out of 10.0	9.0	8.0	7.9 - 7.5	7.5 - 7.0	6.9 - 6.5	6.4 - 6.0	5.9 - 5.5	5.4 - 5.0	4.9 - 3.0
Area of Evaluation									
Site Analysis and Documentation	Exceptional understanding of analyzing and understanding site context.	Outstanding understanding of analyzing and understanding site context.	Excellent understanding of analyzing and understanding site context.	Sophisticated understanding of analyzing and understanding site context.	Very good understanding of analyzing and understanding site context.	Good understanding of analyzing and understanding site context.	Fair understanding of analyzing and understanding site context.	Satisfactory understanding of analyzing and understanding site context.	Poor understanding of analyzing and understanding site context.
Program development and Ideas	Exceptional program development and ideas.	Outstanding program development and ideas.	Excellent program development and ideas.	Excellent program development and ideas.	Very Good program development and ideas.	Good program development and ideas.	Fair program development and ideas.	Satisfactory program development and ideas.	Poor program development and ideas.
Conceptual Diagram and Design Development	Exceptional skill displayed for developing conceptual diagrams and design iterations.	Outstanding skill displayed for developing conceptual diagrams and design iterations.	Excellent skill displayed for developing conceptual diagrams and design iterations.	Sophisticated skill displayed for developing conceptual diagrams and design iterations.	Very good skill displayed for developing conceptual diagrams and design iterations.	Good skill displayed for developing conceptual diagrams and design iterations.	Fair skill displayed for developing conceptual diagrams and design iterations.	Satisfactory skill displayed for developing conceptual diagrams and design iterations.	Poor skill displayed for developing conceptual diagrams and design iterations.
Technical and Structural Resolution	Exceptional understanding of analyzing, understanding and resolving technical and structural elements of design project.	Outstanding understanding of analyzing, understanding and resolving technical and structural elements of design project.	Excellent understanding of analyzing, understanding and resolving technical and structural elements of design project.	Sophisticated understanding of analyzing, understanding and resolving technical and structural elements of design project.	Very good understanding of analyzing, understanding and resolving technical and structural elements of design project.	Good understanding of analyzing, understanding and resolving technical and structural elements of design project.	Fair understanding of analyzing, understanding and resolving technical and structural elements of design project.	Satisfactory understanding of analyzing, understanding and resolving technical and structural elements of design project.	Poor understanding of analyzing, understanding and resolving technical and structural elements of design project.
Representation Technique and final submission	All the architecture representation skills have been exceptionally employed with great rigor, precision and neatness. The presentation is self-explanatory and shows an exceptional level of skill in arranging and organization of a design project..	Most of the architecture representation skills have been exceptionally employed with great rigor, precision and neatness. The presentation is self-explanatory and shows an outstanding level of skill in arranging and organization of a design project..	Most of the architecture representation skills have been employed with great rigor, precision and neatness. The presentation is self-explanatory and shows an excellent level of skill in arranging and organization of a design project..	Most of the architecture representation skills have been employed with great rigor, precision and neatness. The presentation is self-explanatory and shows an sophisticated level of skill in arranging and organization of a design project..	Most of the architecture representation skills have been employed with rigor, precision and neatness. The presentation is self-explanatory and shows a very good level of skill in arranging and organization of a design project..	Not all of the architecture representation skills have been employed with rigor, precision and satisfactory neatness. The presentation shows a good level of skill in arranging and organization of a design project.	Not all of the architecture representation skills have been employed with rigor, precision and satisfactory neatness. The presentation shows a fair level of skill in arranging and organization a design project.	Not all of the architecture representation skills have been employed with rigor, precision and satisfactory neatness. The presentation is not self-explanatory and requires to achieve a satisfactory level of skill in arranging and organization of a design project..	Most of the criteria have not been employed. Lack rigor, precision and neatness. The presentation lacks clarity and shows poor level of skill in arranging and organization of a design project.

COPO Mapping Setup for **SEM 10**

CO-PO mapping for a course of "UG Program									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Develop analytical skills and apply design strategies to create a socially and ecologically responsive architecture.	3	3	2	2	0	2	2	2
CO2	Ability to respond to site characteristics, including urban context and developmental patterns, historical fabric, soil, topography, ecology, climate, and building orientation, in the development and resolution of the architecture.	3	3	3	2	1	3	3	3
CO3	Understand and develop tectonic and structural resolution. Learn to combine the systematic/methodological learning from various stages of study and analysis in the design process towards culmination of an informed design.	2	2	3	2	0	3	3	3
CO4	Develop graphical representation and presentation skills to explain architecture design proposal.	1	1	1	1	0	1	1	3

1 – Slight (Low) Correlation 2- Moderate (Medium) Correlation 3- Substantial (high) Correlation
0 – No Correlation



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