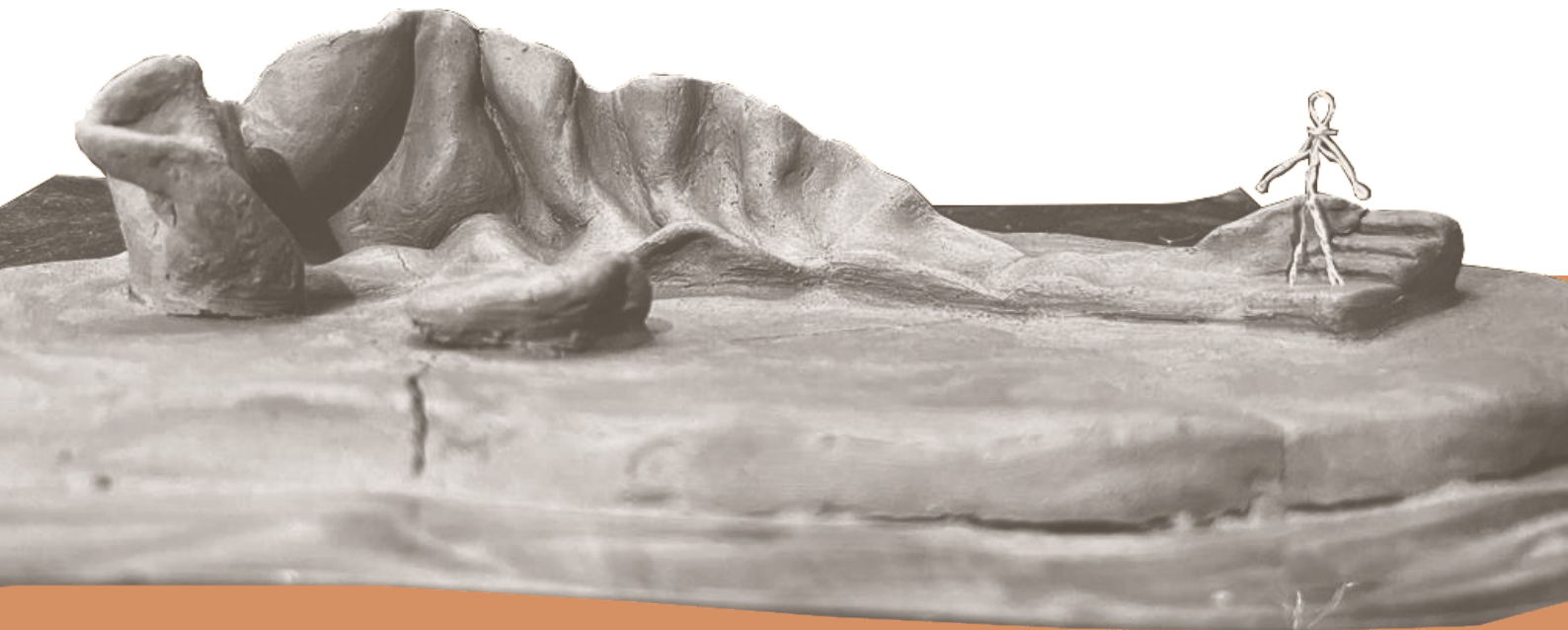


USM's
Kamla Raheja Vidyanidhi Institute for Architecture & Environmental Studies

K R V I A



Course Structure Compilation
B. Arch
2022-23

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Approved by
Council of Architecture

Affiliated to
University of Mumbai

USM's
Kamla Raheja Vidyanidhi Institute for
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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**
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

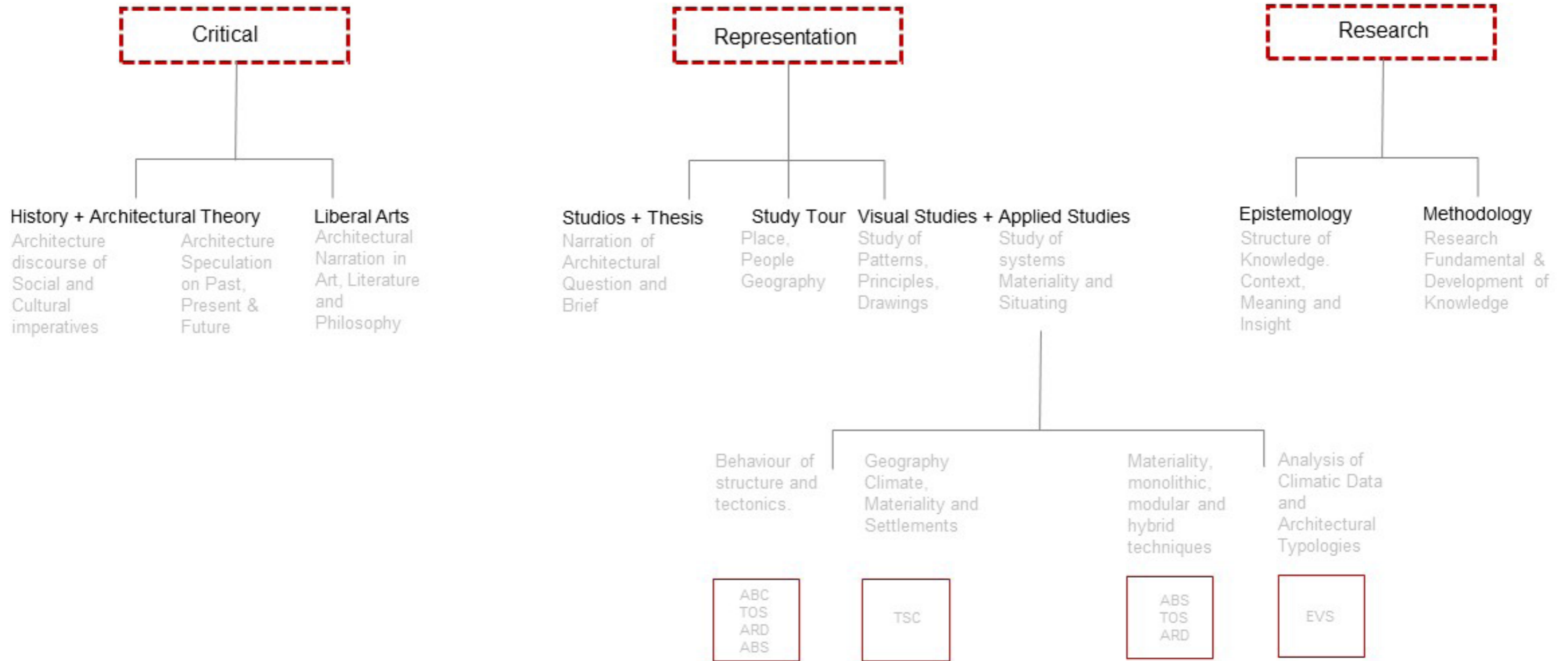
- Epistemology**
Structure of Knowledge, Context, Meaning and Insight
- Methodology**
Research Fundamental & Development of Knowledge

B.A. in Architecture

The Bachelors in Architecture Program

The B.Arch Program at the KR VIA

Knowledge Domain | Critical Domain | Practice Domain | Region Domain



B.Arch

Vision Statement

The intention of the B.Arch course in architecture at the KRVA 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 a way of positioning one's 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 KRVA 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 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 utilitarian 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 be 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 is often seen as a space for **'thinking out of the box'**, the world outside is framed as 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 and the world must become porous. Ideas must permeate through in both directions, challenging each to reconsider its own position. It is only through this kind of

permeability that we can evolve an architecture course that can stay relevant to the changing times.

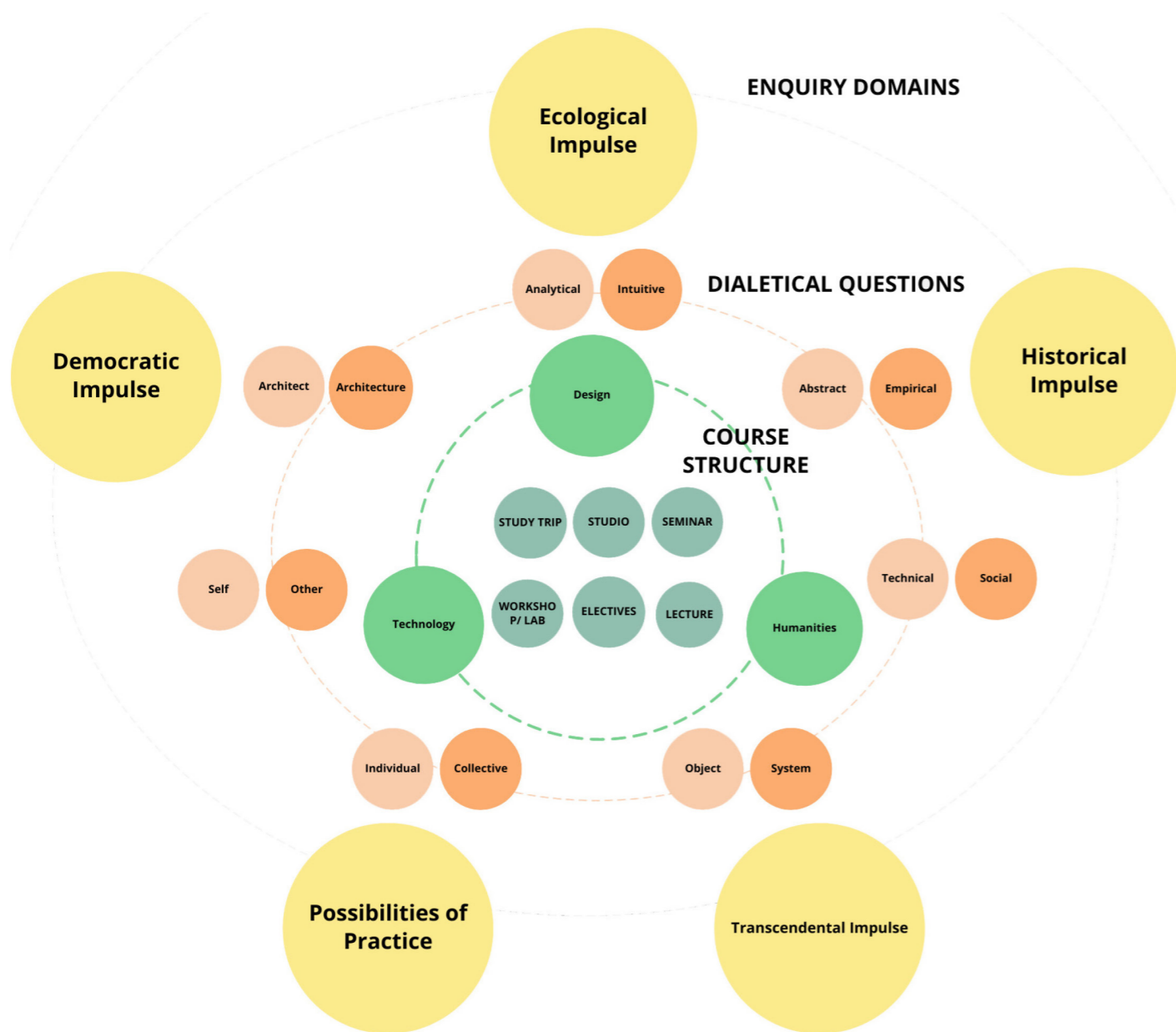
Proposition concerning the discipline

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 dealing 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 KRVA. We start off with some of the primary pedagogic concerns that we face today as practitioners. These concerns recur in different ways across different courses through the years. Following that are some of the modes of enquiry 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 can help us think about the kinds of ways in which the academy can probe them allowing students to explore the questions that emerge within each.

These impulses provide directions to our actions and become trajectories along which we begin to 'act' through the making of a building, or in any other way that is deemed fit. Given below are some of these impulses and a short description of each. 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.

Democratic Domain

This is the urge of architecture to participate in the processes of making a more fair 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 us 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.

Ecological Domain

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 '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 relationship- to be able to evolve frameworks through which we are able to read and calibrate it, away from given presumptions.

Historical Domain

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?

Transcendental Domain

Architecture is integral to culture. In 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 its training and validating 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.

Program Objectives

Modes of Enquiry

ARCHITECT

THE SELF

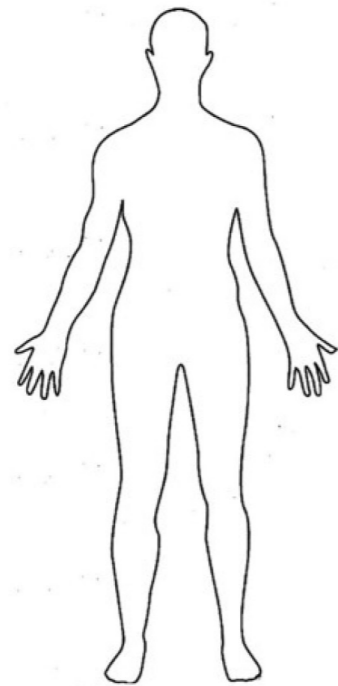
THE INDIVIDUAL

THE OBJECT

THE ABSTRACT

THE TECHNICAL

THE ANALYTICAL



ARCHITECTURE

THE OTHER

THE COLLECTIVE

THE SYSTEM

THE EXPERIENTIAL

THE SOCIO-POLITICAL

THE INTUITIVE

There is a crisis in architectural education today. This crisis mirrors the crisis in architectural practice in the country. As the design of the built environment slips out of the control of the architects and urban designers; and are subject to the volatile forces of globalisation, architects- the caretakers of the built environment feel disempowered- marginalised in the very field that is supposed to be their specialisation.

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 obvious ethical and moral issues. They rationalise their roles are merely technicians 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.

A 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 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.

The space of the academy should be a space to question and critique existing systems of spatial production to allow for new and inventive way 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. 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 KRVA 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 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 The Abstract / The Empirical

One of the most important skills of an architect is the ability to read space through abstract frameworks. These abstract frameworks allows 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 does not allow them to engage 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 or her be challenged. It 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 practise. This swagger and this

machismo has created an essentially confrontationalist 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 "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 his or 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 wholehearted 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 becomes then 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 fundamentally flawed projects.

Even if you leave aside the fact that the object obsession leads to many incredibly irresponsible buildings- socially, economically, environmentally, they often are reduced to mere images- not even 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 as also a cultural process capable of 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 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 is perhaps no longer valid. 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 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 more 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 POs

- 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).**

Program Objectives

Modes of Enquiry

The main components of the structure of the course in an architecture course typically take the form of three kinds of delivery mechanisms - the Studio, Lecture and Seminar Courses and Electives; while the course content itself is divided across three interlinked streams- Design Studios, Technology Courses and Humanities Courses. While the latter two 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.

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 embodied 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 Lecture 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.

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

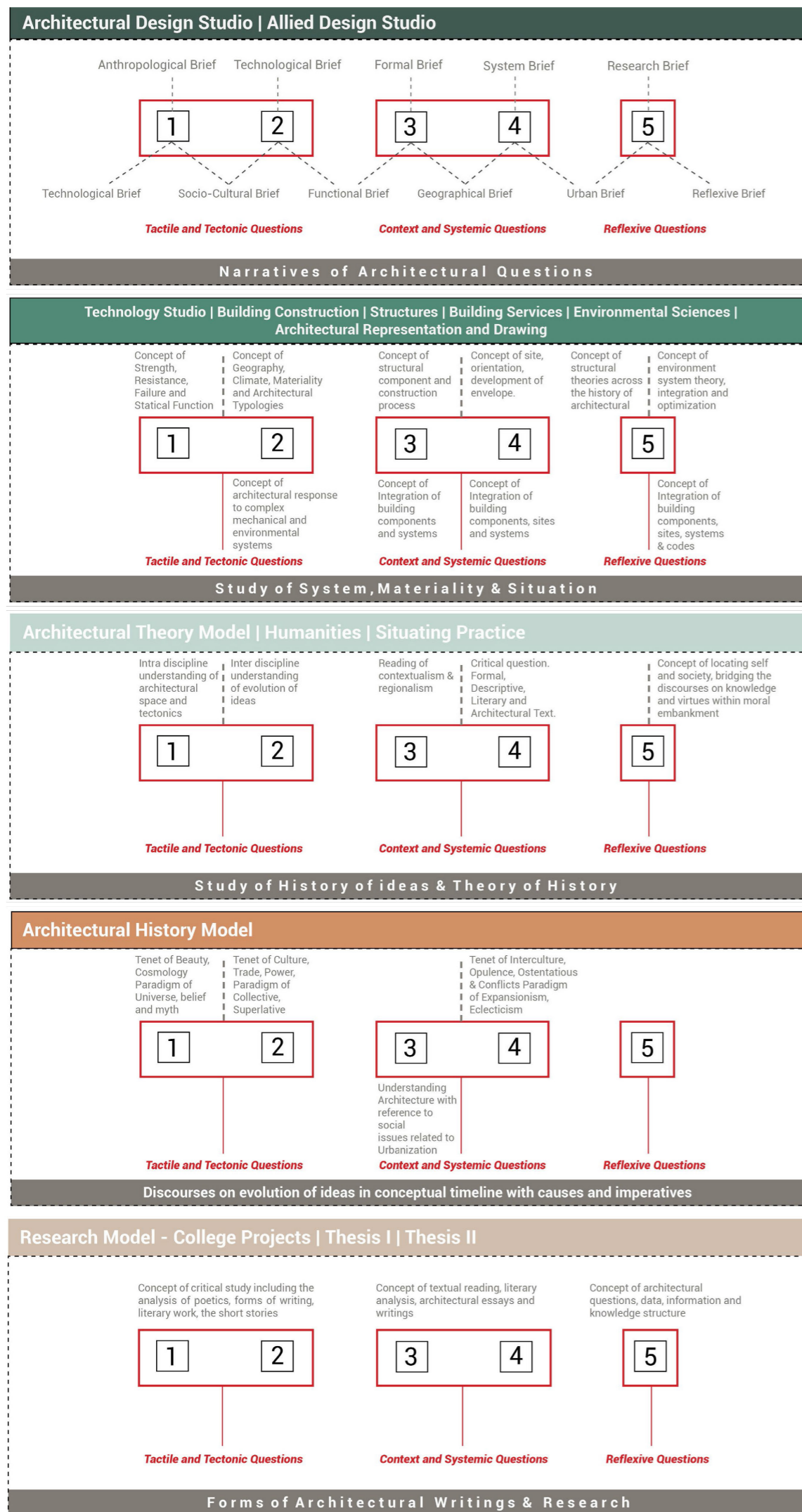
Parallel to the three streams mentioned above is a Study Trip Programme where students are taken to different contexts and asked to engage with them through the act of observation, analysis and representation. These study trips provide an essential space for explorations in architectural ideas that take different forms from the first year to the senior years.

Other co-curricular spaces

Besides the core academic courses mentioned above at the KRVA there is also an attempt to make many co-curricular spaces for blurring the boundary between the city and academy, along with interdisciplinary and transdisciplinary 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.

Courses

Course Components and Structure



The main components of the structure of the course in an architecture course typically take the form of three kinds of delivery mechanisms - the Studio, Lecture and Seminar Courses and Electives; while the course content itself is divided across three interlinked streams- Design Studios, Technology Courses and Humanities Courses. While the latter two are imagined to be places where specialised knowledge is gained by the student, the former is meant to 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.

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Design Studio Spaces

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Technology Studio Spaces

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 its 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 KRVA 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 KRVA. 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

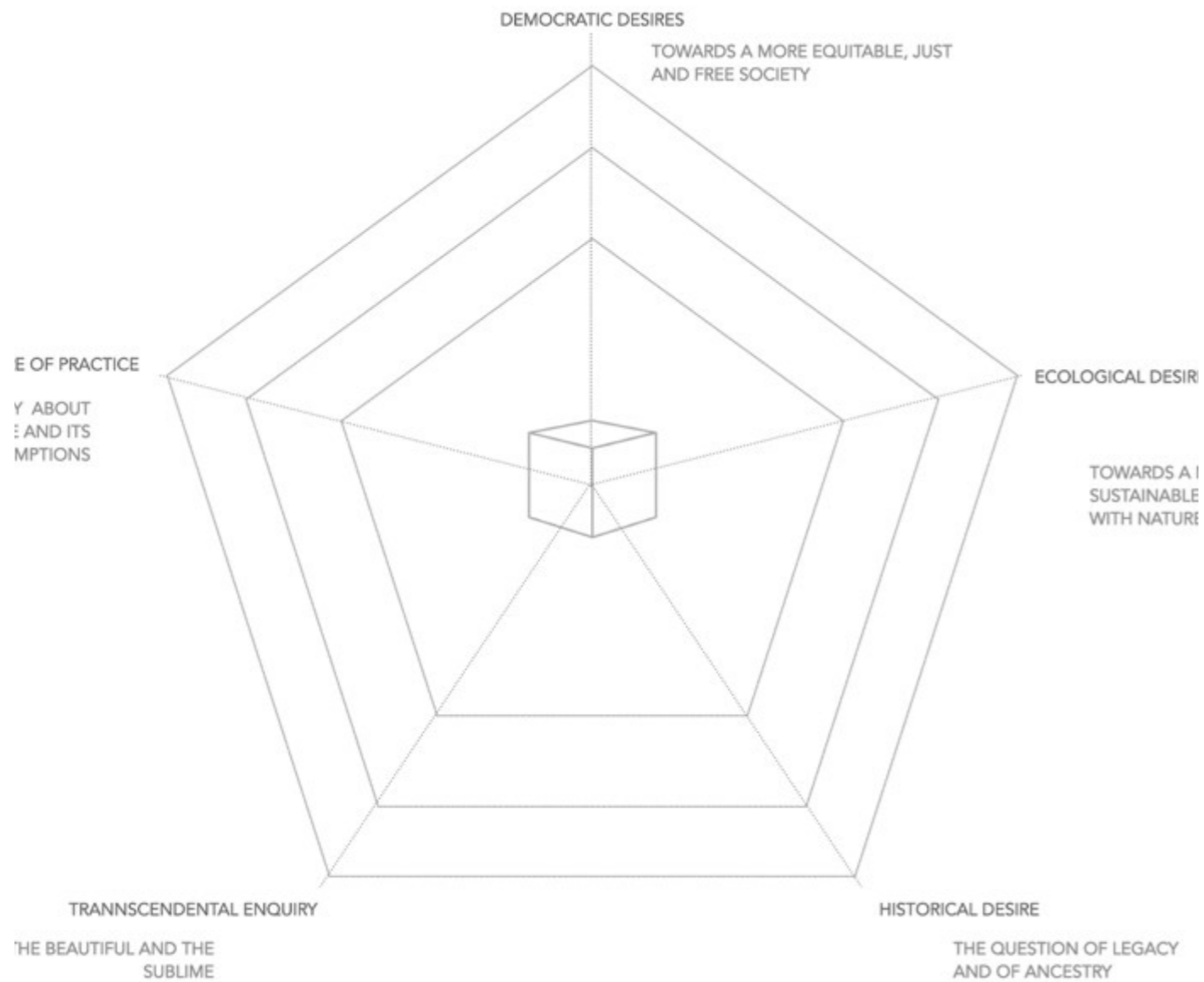
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Mapping the Course

A map is a navigation device. It not only shows us where we are, but also how to get to where we want to go. To map our current position and the direction we want to take in the B.Arch course at the KRVA, we have created two maps that we use to understand our aspirations and our current position. These are the Domain Map and the Methods Map.

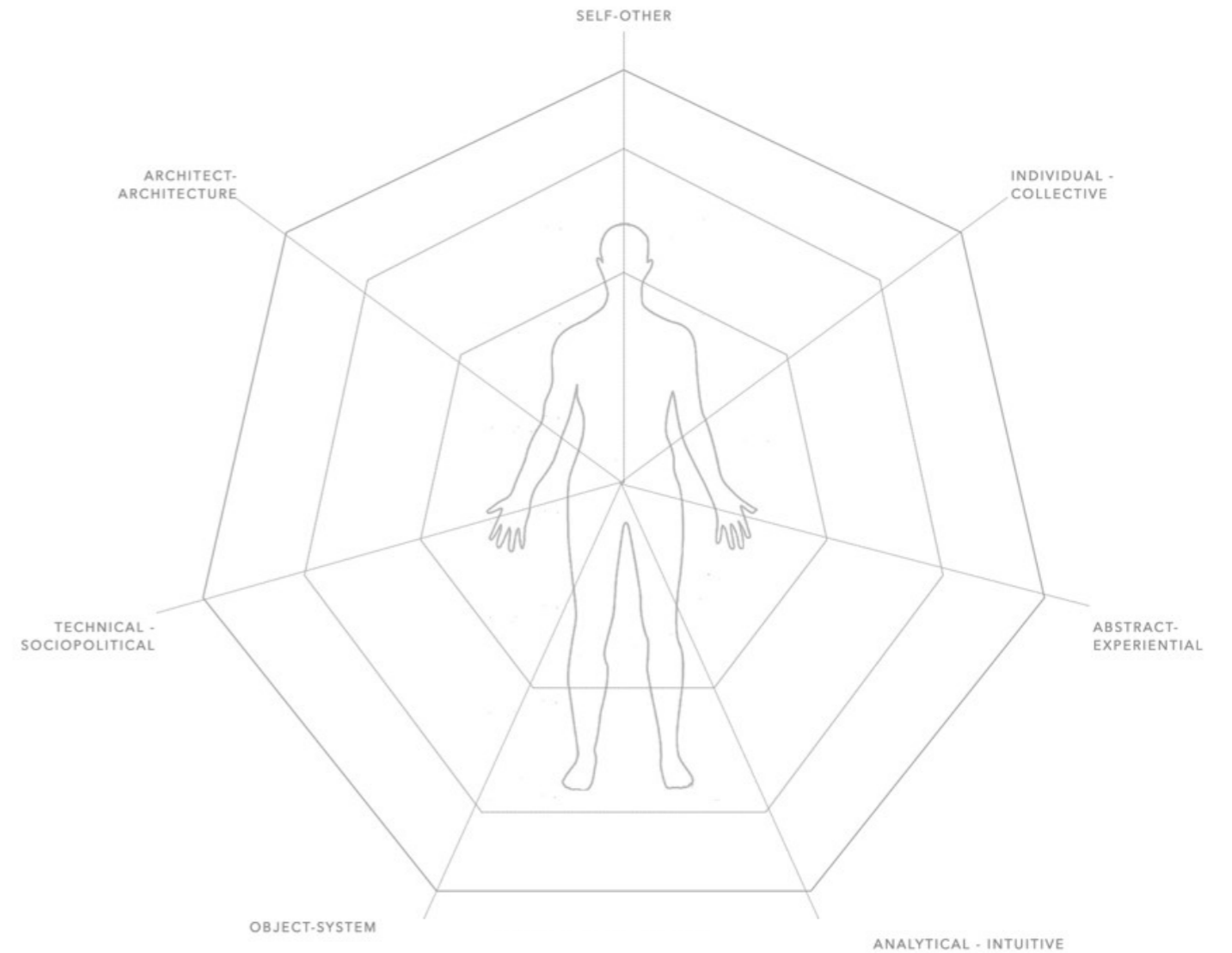
Domain Map

The Domain Map plots the concerns and interest of the courses. These Domains are based on the 'Domains of Enquiry'.



Method Map

The Methods Map plots the pedagogic tools utilised in each course in every year. These are based on the 7 dialectical questions. Given below is a sample of the Methods Map.



Every course in the school is plotted on these two maps. These help us in understanding the overall pedagogic intent and methods in the school. These also become the bases for the evolution of the PROGRAMME OBJECTIVES.

Program Educational Objective (PEOs)

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.
6. To define boundaries and regions to collaborate and meet the constantly changing world of climate change.

Program Specific Outcome

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)

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.

CHALLENGING
FOUNDATIONS

THE BODY
DOMESTICITIES

1

BUILDING
THE SELF

NEIGHBOURHOOD
COMMUNITY

2

CONSOLIDATIONS

IDENTITY
INSTITUTION

3

PROBLEMATISATION

URBANISM
INFRASTRUCTURE

4

POSITIONING
THE SELF

RESEARCH

5

RESEARCH

5 Years Bachelors of Architecture

2 Years Masters
Urban Design
Urban Conservation

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

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 of 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 hands-on 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 explored its 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.

Semester 1

Scheme of Teaching and Examinations

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

Sub No.	Semester I Exam conducted by individual colleges SUBJECTS	Teaching Scheme		Credits		
		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

Sub. No.	Semester I Exam Exam conducted by individual colleges SUBJECTS	Examination Scheme			
		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

Time-Table

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8.00 - 8.50	Architectural Theory (College Project) 120 2CP Ankush Sonal	Architectural Design & Allied Design studio 101/102 AD 2 +Alld 2= 4 Shirish Sonal Mansi Aishwarya Shivani S Krupa S Rohit K Lorenzo F	Drawing studio ARD 107 4 ARD Shirish Sonal Mamta Aishwarya Karan Ankiush Mansi	Humanities 105 2HUM Hussain Shweta	Architectural Design & Allied Design studio 101/102 AD 2 +Alld 2= 4 Shirish Sonal Mansi Aishwarya Shivani S Krupa S Rohit K Lorenzo F	Technology Studio 103/104/120 3 ABC +1 TOS + 1CP Aishwarya ,Shirish , Mamta , Karan
8.50 - 9.40				Technology Lecture 1 (ARD) 103 2 ABC Shirish Aishwarya		
9.40 - 10.30	History Lecture 105/120 1HUM +1CP Ginella Sarah					
10.30 - 11.20						
11.20 - 12.00	B R E A K					
12.00-12.50					ENCOUNTERS	
12.50 - 1.20	L U N C H B R E A K					
1.20 - 2.10	Theory of Structures 104 2 TOS Shantanu K Neeraj	Studio	Drawing studio ARD 107 2 ARD Sonal Mamta Aishwarya Karan Ankiush Mansi	Technology Lecture 2 (EVS) 106 2 EVS Kimaya Minal	Visual studies (Drawing studio) 120 2 CP Sonal , shirish , Mansi	
2.10 - 3.00						
33+3(Electives)= 36 credits	4	7	7	6	7	4

COURSE CODE	BARC 101	CREDITS	4
COURSE NAME	ARCHITECTURAL DESIGN	SESSIONAL MARKS	150
FACULTY	Aishwarya, Misbah, Shivani, Shirish, Sonal, Lorenzo, Rohit, Mansi	EXAM SCHEME	Viva Voce (150 marks)
CLASS DAY/TIME	MONDAY/ 8.00 – 11:20 AM FRIDAY/ 8.00 – 11.20am	NON-CLASS TIME	2 hours per week

PEDAGOGIC INTENT	<p>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. It aims to equip students to read site and context and develop a spatial response to it. It introduces students to tools of architectural representation and explores the expressive qualities of drawings and models.</p> <p>The project is imagined in two parts</p> <p>Part 1: Students go to 12 identified / disparate sites in the city as groups of 7 or 8 to find objects that are connected to different activities within a space. Objects that interest them, Objects that are connected to stories, history, and multiple other associations. Each student brings multiple drawings of objects in their space, where the drawing traces the object in action in space, experience of the object in space, or the imagery generated between the object, its space and the action. From these drawings we explore the ways in which the experience of the object is morphed into the body. The students will create prosthetics to their bodies (here prosthetics are not limited only to extension of limbs alone). As we create 88 morphed bodies, these will be choreographed into 12 distinct performances. Part 2: The second part of the project deals with a spatial extension from the body of a scale like that of a pod or a booth. This is situated on their respective sites and the program for the booth will be working with an identified character from the site. Here students will do scaled drawings and models of this space that they imagine and go on to locate this booth on site.</p>
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COURSE METHODOLOGY	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.
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LECT	DATE	TEACHING CONTENT
1	12.12.2022	Introduce project. Students will go to allotted sites and collect 5 objects and make initial drawings
	16.12.2022	Students will discuss their objects with their guides and will select 1-2 objects to work with. - discussion of drawings - 5 objects in action in space - 15 nos. per student

2	19.12.2022	To make a drawing of that object in action in space. Study the object in its space through drawings.
	23.12.2022	Experiential drawings and working models exploring formal qualities of that object. (can continue the exercise through the break)
3	26.12.2022	Christmas break
	30.12.2022	
4	02.01.2023	Review. Start thinking of it as an extension/ prosthetic to the body. Material exploration. (working studio)
	06.01.2023	drawings and Scaled models with ideas of material and processes of construction.
5	09.01.2023	drawings and Scaled models with ideas of material and processes of construction.
	13.01.2023	Making of the final object and choreographing the carnival.
6	16.01.2023	Making of the final object and choreographing the carnival.
	20.01.2023	Mid term Allied jury Introduction to Part 2
7	23.01.2023	Identification of character and potential program for the booth - through activity mapping and drawings
	27.01.2023	Conceptual models, diagrams and drawings
8	30.01.2023	Conceptual models, diagrams and drawings
	03.02.2023	Location on site - how? Why?
9	06.02.2023	Location on site - how? Why?
	10.02.2023	Formalizing ideas through models, diagrams and drawings
10	13.02.2023	Formalizing ideas through models, diagrams and drawings
	17.02.2023	Elective week
11	20.02.2023	Elective week
	24.02.2023	
12	27.02.2023	Drawings - plans sections and elevations, models
	03.03.2023	Drawings - plans sections and elevations, models
13	06.03.2023	Drawings - plans sections and elevations, models
	10.03.2023	Making of the final model, plans, sections and elevations
14	13.03.2023	Making of the final model, plans, sections and elevations
	18.03.2023	Final Allied Design jury

BARC 101

CO-PO mapped syllabi of B.Arch Course 2022-2023_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:1

First Year

Course Objectives: OBJECTS /BODY/SPACE

OBJECTS - BODY - SPACE

The project is imagined in two parts

Part 1:

Students go to 12 identified / disparate sites in the city as groups of 7 or 8 to find objects that are connected to different activities within a space. Objects that interest them, Objects that are connected to stories, history, and multiple other associations. Each student brings multiple drawings of objects in their space, where the drawing traces the object in action in space, experience of the object in space, or the imagery generated between the object, its space and the action.

From these drawings we explore the ways in which the experience of the object is morphed into the body. The students will create prosthetics to their bodies (here prosthetics are not limited only to extension of limbs alone).

As we create 88 morphed bodies, these will be choreographed into 12 distinct performances.

Part 2:

The second part of the project deals with a spatial extension from the body of a scale like that of a pod or a booth. This is situated on their respective sites and the program for the booth will be working with an identified character from the site. Here students will do scaled drawings and models of this space that they imagine and go on to locate this booth on site.

Course Outcomes (CO):

Course Outcome	Description
CO1	To understand the relationship between the body and form ,space, scale.
CO2	To author/create a unique work through and Iterative design process
CO3	To understand and evaluate tools of drawing and making, working with different materials.
CO4	To understand and analyse context

Rubrics :

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
Year of Assessment: 2017-2018									
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		BARC102	150	150	4	13th April 2018		
Exercise: Title	OBJECT-BODY-SPACE								
Exercise Note / Task	<p>Part 1: Students go to 12 identified / disparate sites in the city as groups of 7 or 8 to find objects that are connected to different activities within a space. Objects that interest them, Objects that are connected to stories, history, and multiple other associations. Each student brings multiple drawings of objects in their space, where the drawing traces the object in action in space, experience of the object in space, or the imagery generated between the object, its space and the action. From these drawings we explore the ways in which the experience of the object is morphed into the body. The students will create prosthetics to their bodies (here prosthetics are not limited only to extension of limbs alone). As we create 88 morphed bodies, these will be choreographed into 12 distinct performances. Part 2: The second part of the project deals with a spatial extension from the body of a scale like that of a pod or a booth. This is situated on their respective sites and the program for the booth will be working with an identified character from the site. Here students will do scaled drawings and models of this space that they imagine and go on to locate this booth on site.</p>								
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 Enquiry as a response to context.	Unique and original choice that reflects a deep and profound understanding of theist.	Unique and original choice that reflects a clear understanding of the context.	Outstanding choice that reflects a clear understanding of the context	Excellent choice that reflects a clear understanding of the context.	Choice reflects a very good understanding of the context	Choice reflects a good understanding of the context	Choice reflects a fair understanding of the context	Choice reflects satisfactory understanding of the context	Choice reflects a complete lack of effort at understanding

Engagement with the process of explorations of form and material.		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.	Satisfactory amount of rigour and engagement through the process.	Work reflect a failure to engage in the process.
The quality of final work.	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 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 original and innovative manner.	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 a good amount of 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.

CO-PO mapping for a course of “PG program”									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO4	PO5	PO6	PO7	PO8
1	To understand formal qualities, and the relationship between the body and form,space, scale.	3	3	3	2	1	1	2	0
2	To understand and analyse context	3	3	3	2	1	2	3	0
3	To author/create a unique work through and Iterative design process	3	3	3	1	1	0	0	1
4	To understand and evaluate tools of drawing and making,working with different materials.	3	3	3	1	1	0	0	0

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

COURSE CODE	BARC 102	CREDITS	4
COURSE NAME	ALLIED DESIGN	SESSIONAL MARKS	150
FACULTY	Aishwarya, Misbah, Shivani, Shirish, Sonal, Lorenzo, Rohit, Mansi	EXAM SCHEME	Viva Voce (150 marks)
CLASS DAY/ TIME	MONDAY/ 8.00 – 11:20 AM FRIDAY/ 8.00 – 11.20am	NON-CLASS TIME	2 hours per week

PEDAGOGIC INTENT	<p>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 project is imagined in two parts</p> <p>Part 1: Students go to 12 identified / disparate sites in the city as groups of 7 or 8 to find objects that are connected to different activities within a space. Objects that interest them, Objects that are connected to stories, history, and multiple other associations. Each student brings multiple drawings of objects in their space, where the drawing traces the object in action in space, experience of the object in space, or the imagery generated between the object, its space and the action. From these drawings we explore the ways in which the experience of the object is morphed into the body. The students will create prosthetics to their bodies (here prosthetics are not limited only to extension of limbs alone). As we create 88 morphed bodies, these will be choreographed into 12 distinct performances. Part 2: The second part of the project deals with a spatial extension from the body of a scale like that of a pod or a booth. This is situated on their respective sites and the program for the booth will be working with an identified character from the site. Here students will do scaled drawings and models of this space that they imagine and go on to locate this booth on site.</p>
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COURSE METHODOLOGY	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.
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4	02.01.2023	Review. Start thinking of it as an extension/ prosthetic to the body. Material exploration. (working studio)
	06.01.2023	drawings and Scaled models with ideas of material and processes of construction.
5	09.01.2023	drawings and Scaled models with ideas of material and processes of construction.
	13.01.2023	Making of the final object and choreographing the carnival.
6	16.01.2023	Making of the final object and choreographing the carnival.
	20.01.2023	Mid term Allied jury Introduction to Part 2
7	23.01.2023	Identification of character and potential program for the booth - through activity mapping and drawings
	27.01.2023	Conceptual models, diagrams and drawings
8	30.01.2023	Conceptual models, diagrams and drawings
	03.02.2023	Location on site - how? Why?
9	06.02.2023	Location on site - how? Why?
	10.02.2023	Formalizing ideas through models, diagrams and drawings
10	13.02.2023	Formalizing ideas through models, diagrams and drawings
	17.02.2023	Elective week
11	20.02.2023	Elective week
	24.02.2023	
12	27.02.2023	Drawings - plans sections and elevations, models
	03.03.2023	Drawings - plans sections and elevations, models
13	06.03.2023	Drawings - plans sections and elevations, models
	10.03.2023	Making of the final model, plans, sections and elevations
14	13.03.2023	Making of the final model, plans, sections and elevations
	18.03.2023	Final Allied Design jury

LECT	DATE	TEACHING CONTENT
1	12.12.2022	Introduce project. Students will go to allotted sites and collect 5 objects and make initial drawings
	16.12.2022	Students will discuss their objects with their guides and will select 1-2 objects to work with. - discussion of drawings - 5 objects in action in space - 15 nos. per student
2	19.12.2022	To make a drawing of that object in action in space. Study the object in its space through drawings.
	23.12.2022	Experiential drawings and working models exploring formal qualities of that object. (can continue the exercise through the break)
3	26.12.2022	Christmas break
	30.12.2022	

CO-PO mapped syllabi of B.Arch Course 2022-2023_Allied Design 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: Allied Design

Sem:1

First Year 2022-23

Course Objectives: OBJECTS /BODY/SPACE

OBJECTS - BODY - SPACE

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 project is imagined in two parts

Part 1:

Students go to 12 identified / disparate sites in the city as groups of 7 or 8 to find objects that are connected to different activities within a space. Objects that interest them, Objects that are connected to stories, history, and multiple other associations. Each student brings multiple drawings of objects in their space, where the drawing traces the object in action in space, experience of the object in space, or the imagery generated between the object, its space and the action.

From these drawings we explore the ways in which the experience of the object is morphed into the body. The students will create prosthetics to their bodies (here prosthetics are not limited only to extension of limbs alone).

As we create 88 morphed bodies, these will be choreographed into 12 distinct performances.

Part 2:

The second part of the project deals with a spatial extension from the body of a scale like that of a pod or a booth. This is situated on their respective sites and the program for the booth will be working with an identified character from the site. Here students will do scaled drawings and models of this space that they imagine and go on to locate this booth on site.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand, analyse and interpret the text work.
CO2	To engage in a iterative process of explorations through drawing
CO3	To author/create a unique work through and Iterative design process

Rubrics :

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
Year of Assessment: 2017-2018									
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		BARC102	150	100	4	13th April 2018		
Exercise: Title	OBJECT-BODY-SPACE								
Exercise Note / Task	<p>Part 1: Students go to 12 identified / disparate sites in the city as groups of 7 or 8 to find objects that are connected to different activities within a space. Objects that interest them, Objects that are connected to stories, history, and multiple other associations. Each student brings multiple drawings of objects in their space, where the drawing traces the object in action in space, experience of the object in space, or the imagery generated between the object, its space and the action. From these drawings we explore the ways in which the experience of the object is morphed into the body. The students will create prosthetics to their bodies (here prosthetics are not limited only to extension of limbs alone). As we create 88 morphed bodies, these will be choreographed into 12 distinct performances. Part 2: The second part of the project deals with a spatial extension from the body of a scale like that of a pod or a booth. This is situated on their respective sites and the program for the booth will be working with an identified character from the site. Here students will do scaled drawings and models of this space that they imagine and go on to locate this booth on site.</p>								
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 Enquiry as a response to context.	Unique and original choice that reflects a deep and profound understanding of theist.	Unique and original choice that reflects a clear understanding of the context.	Outstanding choice that reflects a clear understanding of the context	Excellent choice that reflects a clear understanding of the context.	Choice reflects a very good understanding of the context	Choice reflects a good understanding of the context	Choice reflects a fair understanding of the context	Choice reflects a satisfactory understanding of the context	Choice reflects a complete lack of effort at understanding

		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.	Satisfactory amount of rigour and engagement through the process.	Work reflect a failure to engage in the process.
Engagement with the process of explorations of form and material.									
The quality of final work.	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 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 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 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.

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, analyse and interpret the text work.	3	2	2	1	0	0	0	1
2	To engage in a iterative process of explorations through drawing	2	3	3	1	0	0	0	0
3	To author/create a unique work through and Iterative design process	3	3	3	1	0	0	0	0

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

COURSE CODE	BARC 103	CREDITS	5 (Split between Architectural Design and Architectural Building construction & Materials Lecture) Credits assigned for Architectural Building Construction and Material - 2ABC + 1TOS AD includes 3ABC credits
COURSE NAME	Architectural Building Construction and Materials	SESSIONAL MARKS	(50 (AD) + 30) + 20 (TOS)
FACULTY	Shirish Joshi, Aishwarya Padmanabhan, Mamta Patwardhan	EXAM SCHEME	Internal (70) + Theory (80) = 150
CLASS DAY/TIME	TUESDAY, 8:00am to 9:40 am SATURDAY, 8:00 to 11:20 am	NON-CLASS TIME	3

PEDAGOGIC INTENT
The intent of the technology studio is to involve the body as a way of understanding the tangible- material world around us. As the eye sees, estimates, and positions oneself within the environment, the body simultaneously measures, experiences, engages and brings into form what is imagined. It is through materials that the body makes its way through the world and explores the plethora of possibilities that the inherent qualities of each material allows for. The focus of the course is on the intimate relationship between the body and its physiological experiences to the forces of nature of gravity, mass, stress, strains, light, wind, humidity, heat, etc. that are in turn looked at as materials which in combination with other materials form systems and syntaxes. Pedagogically the objectives are to explore the body as a unit of measure, observation, exploration and representation. The body shall be means of analytical understanding of geometries, equilibrium and stability of objects inherent in nature and those that are produced through culture.

OBJECTIVES
Understanding of how tectonic and stereotomic expressions can enrich and define the spatial qualities in architecture.

COURSE METHOD
The course eases the students into the world of making, construction, architectural production, building and execution, realizing that each of these aspects take on different meanings in different contexts, socially, culturally, historically, geographically, and economically. By understanding what a material means, beyond it being a mere resource, and instead is seen as means of manifesting ideas and concepts that are realized through processes that may be planned or even experimented with, the course opens up multiple approaches and applications of a single material or materials in combination. The assemblage of materials, observed by the eye and found through the act of drawing, in the form of sketches followed by technical drawing of crucial details, becomes the method adapted for this course. To further engage the students with actual materials, the course shall include smaller exercises that encourages students to spend time on site with the makers in order to be introduced to various techniques, material behaviour, the social dynamics and perceptions of labour.

WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
Week 1	13/12/2022	<i>Joy of Building</i> Understanding what is the individual's perception of architecture and construction create a mind map of materials one sees around them	Assignment: On Cement: https://docs.google.com/document/d/1xkUTL2qYHXFLcKqhBFonRAD13tNRcNgz2TBkwgj-_UY/edit?usp=sharing	
(Studio)	17/12/2022	Exercise 1 : Study a found object for its physical and formal properties, understand how		

the weight distribution is done in it. Create a framework with watchmaker sticks and suspend the object from it. Understand the changes that are to be made to achieve equilibrium.

Week 2	20/12/2022	realising that construction is a ritual, a bodily engagement, collective initiative and activity, the putting together of materials idea of shelter Create an extensive repository of raw materials, understand the forms they take to use in construction and why (properties) (eg. plastic - PVC in conduits - bad conductor of heat, standardization of sizes and dimensions, ease of manufacturing of the product Understand what were the alternative materials used previously or is being experimented on for the same use of the material Understand how two materials come together, how and where the combination can be used (eg. grass and plastic) Materials not restricted to tangible resources but essentially comprises of anything that determines certain structural and formal gestures that respond to its properties, for example - light as material, water as material difference between material and materiality Analysis of Material Properties Introduction - Mind map of materials and Technologies of construction	
(Studio)	24/12/2022	Exercise 1 continued and reviewed	
Week 3	27/12/2022 31/12/2022	Christmas Break	Visit a construction site, observe and record one ongoing activity everyday throughout the week to understand the process, technique and sequence of action for that particular task. Make a one-minute videographic presentation of the same,
Week 4	03/01/2023	Presentation of site study	
(Studio)	07/01/2023	Exercise 2: Using watchmaker sticks construct objects such as the cube, a braced cube and a cone. Understand how with	

minimum material, an entire framework is put together. The strength and flexibility is to be understood by apply external force to the object.

Week 5	10/01/2023	Elements of construction - Introduction of the components of Building Construction – Sequence from commissioning of the architect, conception, design development, structural understanding, execution, on-site activities, to hand-over
		Sub structure/Super Structure - looking at architectural elements as syntatic - across time, materials and forms of expression the classes will also covers - types, dimensions, details The idea of the tectonic
(Studio)	14/01/2023	Exercise 3:
Week 6	17/01/2023	Foundation/ Plinth
	21/01/2023	
Week 7	24/01/2023	Walls/ fenestrations
	28/01/2023	
Week 8	31/01/2023	Frames - timber/ steel / RCC
	04/02/2023	
Week 9	07/02/2023	Roofs/Terraces/ ceiling/ domes/ vaults in load bearing systems
	11/02/2023	
Week 10	14/02/2023	Introduction to the various Systems and principles of buildings along with the understanding of load transfer. The intent is to introduce the overall before dividing the systems into its parts and components that play individual roles. Explanation of load bearing and trabeated systems.
	18/02/2023	
Week 11	21/02/2023	Elective Week
	25/02/2023	Elective Week
Week 12	28/02/2023	Introduction to the various Systems and principles of buildings along with the understanding of load transfer. The intent is to introduce the overall before dividing the

systems into its parts and components that play individual roles. Explanation of load bearing and trabeated systems.

	04/03/2023	Revision
Week 13	07/03/2023	Introduction to the various Systems and principles of buildings along with the understanding of load transfer. The intent is to introduce the overall before dividing the systems into its parts and components that play individual roles. Explanation of load bearing and trabeated systems.
	11/03/2023	Revision
Week 14	14/03/2023	Revision
	19/03/2023	End of Semester

LEARNING OUTCOMES Establish a foundation to the technology sequence through a fundamental understanding of the reciprocal relationships between space, material and structure under a holistic approach.

READING LIST/ REFERENCES

- 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 D.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
- 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 Zannos

CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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:

This course intends to look at the subject of Building Construction as a story of how individual elements and components in architecture are articulated together to create assemblies that in relation to the form of the architectural object ultimately informs the tectonic expression. The tectonic expression being an externalized projection of meaning of the building, lends itself to be experienced by the body/ bodies that inhabit it, thereby imprinting itself in the consciousness of the user, who in turn affect it by their sheer presence. In the first year, the tectonic is observed and understood through materials and their materiality or even their material-realities. The course recognizes how factors such as the context, cost, inherent properties of materials, skills available and the market dynamics affect how we as architects come to choose materials which we use to write stories of/ for those we design for.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understanding the role of Building elements in a system of construction that follow the mechanical behaviour of individual elements as well as the structural transfer of loads from one element to the other
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 representational materials such as erasers, wooden blocks and watchmaker sticks towards attaining equilibrium.

Rubrics:

Year of Assessment: 2022-2023	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 I		103	80 (Internal)		Studio (3) + Lecture (2) = 5	Multiple			
Exercise: Title	Tectonic Experiments through Building construction and systems								
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 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 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 incorporating the minimum requirements	Arbitrary and Adhoc Inquiry
Representation Technique and final submission	Final presentation is complete with all process, concept 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 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 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 an excellent level of skill in arranging and organisation. The drawings and models are fairly consistently of very good quality.	Final presentation is complete with all 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 show a fair amount of clarity and skill.	Final presentation is complete with the process, concept and logic well represented. The presentation is self-explanatory and shows good levels of skill in arranging and organisation. The drawings and models are of a satisfactory quality.	Final presentation is complete with a fair 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 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 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, structure, technique.	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 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 fair understanding of material, structure, technique.	The models display a fair amount effort and rigour. They are constructed, with a satisfactory 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.	

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, 2021-2022

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 that follow the mechanical behaviour of individual elements as well as the structural transfer of loads from one element to the other	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 Tectonic systems and principles through the articulation of materials	3	3	3	3	3	3	3	3	
CO5	Evaluation of structural articulation of representational materials such as erasers, wooden blocks and watchmaker sticks towards attaining equilibrium.	3	3	3	1	3	1	3	0	

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

COURSE CODE	BARC104	CREDITS	2 Lecture + 1 Studio
COURSE NAME	Theory and Design of structures - 1	SESSIONAL MARKS	50
FACULTY	Shantanu Khandkar, Neeraj Vakharia	EXAM SCHEME	Theory exam - 50 marks
CLASS DAY/TIME	Monday 1:20 – 3:00	NON-CLASS TIME	nil

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
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COURSE 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"
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Lecture

COURSE CODE	BARC104	CREDITS	3
COURSE NAME	Theory and Design of structures - 1	SESSIONAL MARKS	50
FACULTY	Shantanu Khandkar, Neeraj Vakharia	EXAM SCHEME	Theory exam - 50 marks
CLASS DAY/TIME	Monday 1:20 – 3:00	NON-CLASS TIME	nil

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
-------------------------	--

COURSE 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"
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
week 1	2/01/2023	Theory of structures: Introduction		
week 2	9/01/2023	Analysing existing buildings through the reference of "Form follows function" or "Form follows structure".		
week 3	16/01/2023	Introduction to nature and types of forces	Exercise	
week 4	23/01/2023	External Loading and Internal stresses		
week 5	30/01/2023	Types of Support & Loading Conditions		
week 6	6/02/2023	Previous topic and numerical		
week 7	13/02/2023	Center of Gravity		
week 8	20/02/2023	Moment of Inertia	Exercise	
week 9	27/02/2023	Numerical on previous topic		
week 10	6/03/2023	Exercise Review & Final		

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.
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READING LIST/ REFERENCES	1) Why Buildings Stand Up by Mario Salvadori 2) Eccentric Structures in Architecture by Joseph Lim 3) Theory of Structures by R.S. Khurmi
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Studio

COURSE CODE	BARC103	CREDITS	5 (Split between Architectural Design and Architectural Building construction & Materials Lecture) Credits assigned for Architectural Building Construction and Material - 2ABC + 1TOS AD includes 3ABC credits
COURSE NAME	Architectural Building Construction and Materials	SESSIONAL MARKS	(50 (AD) + 30) + 20 (TOS)
FACULTY	Shirish Joshi, Aishwarya Padmanabhan, Mamta Patwardhan	EXAM SCHEME	Internal (70) + Theory (80) = 150
CLASS DAY/TIME	TUESDAY, 8:00am to 9:40 am SATURDAY, 8:00 to 11:20 am	NON-CLASS TIME	3

PEDAGOGIC INTENT	The intent of the technology studio is to involve the body as a way of understanding the tangible- material world around us. As the eye sees, estimates, and positions oneself within the environment, the body simultaneously measures, experiences, engages, and brings into form what is imagined. It is through materials that the body makes its way through the world and explores the plethora of possibilities that the inherent quality of each material allows for. The focus of the course is on the intimate relationship between the body and its physio-logical experiences to the forces of nature of gravity, mass, stress, strains, light, wind, humidity, heat, etc. that are in turn looked at as materials which in combination with other materials form systems and syntaxes. Pedagogically the objectives are to explore the body as a unit of measure, observation, exploration, and representation. The body shall be means of analytical understanding of geometries, equilibrium, and stability of objects inherent in nature and those that are produced through culture.
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COURSE METHOD	Understanding of how tectonic and stereotomy expressions can enrich and define the spatial qualities in architecture. The course eases the students into the world of making, construction, architectural production, building and execution, realizing that each of these aspects take on different meanings in different contexts, socially, culturally, historically, geographically, and economically. By understanding what a material means, beyond it being a mere resource, and instead is seen as means of manifesting ideas and concepts that are realized through processes that may be planned or even experimented with, the course opens multiple approaches and applications of a single material or materials in combination. The assemblage of materials, observed by the eye and found through the act of drawing, in the form of sketches followed by technical drawing of crucial details, becomes the method adapted for this course. To further engage the students with actual materials, the course shall include smaller exercises that encourages students to spend time on site with the makers to be introduced to various techniques, material behaviour, the social dynamics and perceptions of labour.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS
week 1	13/12/2022	Joy of Building Understanding what the individual's perception of architecture and construction is create a mind map of materials one sees around them	
	17/12/2022	Exercise 1 : Study a found object for its physical and formal properties, understand how the weight distribution is done in it. Create a framework with watchmaker sticks and suspend the object from it. Understand the changes that are to be made to achieve equilibrium.	
week 2	20/12/2022	Realising that construction is a ritual, a bodily engagement, collective initiative and activity, the putting together of materials idea of shelter Create an extensive repository of raw materials, understand the forms they take to use in construction and why (properties) (e.g. plastic - PVC in conduits bad conductor of heat, standardization of sizes and dimensions, ease of manufacturing of the product Understand what the alternative materials were used previously or is being experimented on for the same use of the material Understand how two materials come together, how and where the combination can be used (e.g. grass and plastic) Materials not restricted to tangible resources but essentially comprises of anything that determines certain structural and formal gestures that respond to its properties, for example - light as material, water as material difference between material and materiality Analysis of Material Properties Introduction - Mind map of materials and Technologies of construction	
	24/12/2022	Exercise 1 continued and reviewed	
week 3	27/12/2022	Christmas Break	Visit a construction site, observe, and record one ongoing activity everyday throughout the week to understand the process, technique and sequence of action for that particular task. Make a one-minute videographic presentation of the same
	31/12/2022		
week 4	3/01/2023	Presentation of site study	
	7/01/2023	Exercise 2: Using watchmaker sticks construct objects such as the cube, a braced cube and a cone. Understand how with minimum material, an entire framework is put together. The strength and flexibility is to be understood by apply external force to the object.	
week 5	10/01/2023	Elements of construction - Introduction of the components of Building Construction – Sequence from commissioning of the architect, conception, design development, structural understanding, execution, onsite activities, to hand-over Sub structure/Super Structure -looking at architectural elements as syntactic - across time, materials and forms of expression the classes will also covers- types, dimensions, details The idea of the tectonic	
	14/01/2023	Exercise 3:	
week 6	17/01/2023	Foundation/ Plinth	
	21/01/2023		
week 7	24/01/2023	Walls/ fenestrations	
	28/01/2023		
week 8	31/01/2023	Frames - timber/ steel / RCC	
	4/02/2023		

week 9	7/02/2023	Roofs/Terraces/ ceiling/domes/ vaults in load bearing systems
	11/02/2023	
week 10	14/02/2023	Introduction to the various Systems and principles of buildings along with the understanding of load transfer. The intent is to introduce the overall before dividing the systems into its parts and components that play individual roles. Explanation of load bearing and trabeated systems.
	18/02/2023	
week 11	21/02/2023	Elective week
	25/02/2023	Elective week
week 12	28/02/2023	Introduction to the various Systems and principles of buildings along with the understanding of load transfer. The intent is to introduce the overall before dividing the systems into its parts and components that play individual roles. Explanation of load bearing and trabeated systems.
	4/03/2023	Revision
week 13	7/03/2023	Introduction to the various Systems and principles of buildings along with the understanding of load transfer. The intent is to introduce the overall before dividing the systems into its parts and components that play individual roles. Explanation of load bearing and trabeated systems.
	11/03/2023	Revision
week 14	14/03/2023	Revision
	19/03/2023	End of the semester

LEARNING OUTCOMES	Establish a foundation to the technology sequence through a fundamental understanding of the reciprocal relationships between space, material and structure under a holistic approach.
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READING LIST/ REFERENCES	<p>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 D.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 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 Zannos</p>
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – *Theory and Design of Structures 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: 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:

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture										
Year of Assessment : 2022-2023	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 incorporating the minimum requirements	Arbitrary 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 Sem1

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

COURSE CODE	BARC 105 (2 CP Humanities, 1 CP history)	CREDITS	3
COURSE NAME	HUMANITIES (2022-23)	SESSIONAL MARKS	50 MARKS
FACULTY	Hussain, Shweta, Ginella George, Sarah George	EXAM SCHEME	THEORY PAPER 50 MARKS
CLASS DAY / TIME	Thursday 8 am	NON-CLASS TIME	2 hours

Course 1:

COURSE CODE	BARC 105	CREDITS	2
COURSE NAME	HUMANITIES (2022-23)	SESSIONAL MARKS	50 MARKS
FACULTY	Hussain, Shweta	EXAM SCHEME	THEORY PAPER 50 MARKS
CLASS DAY / TIME	Thursday 8 am	NON-CLASS TIME	2 hours

COURSE DESCRIPTION	This course will enable students to think about some commonly used terms as 'concepts', and to examine them through binary constructions. Through this 'dialectical' method, students will learn how to develop concepts theoretically. Through the course students will also learn to seek understanding of particular phenomena through the use of general concepts.
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PEDAGOGIC INTENT / LEARNING OBJECTIVES	1) Thinking about particular phenomena through general concepts 2) Using the dialectical method to investigate ideas 3) Exploring ideas through debate and to articulate them in written form
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COURSE METHODOLOGY	The course will be a weekly lecture and discussion seminar - 2 hours per session. Each binary construction will take up two sessions. Each class will consist of different types of reading, writing and debating exercises.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS
1	23 rd Dec	Introduction: the dialectic as a method	
2	30 th Dec	Self and society	
3	6 th Jan		
4	13 th Jan	Past and present	
5	20 th Jan		
6	27 th Jan	Nature and Culture	
7	3 rd Feb		
8	10 th Feb	Scared and profane	
9	17 th Feb		
10	24 th Feb	Purity and pollution	
11	3 rd Mar		
12	10 th Mar	Concluding seminar	

EVALUATION CRITERIA	The assignment (case study) will be given 75% of the weight. Class participation will be given 25% of the grade.
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Course 2: History

COURSE CODE	120	CREDITS	1 CP + 1 Hu
COURSE NAME	College Projects 1	SESSIONAL MARKS	Internal - 20
FACULTY	Ginella George, Sarah George	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 8.00 – 9.40am	NON-CLASS TIME	

PEDAGOGIC INTENT	The history of architecture for first three years needs to correspond to the larger pedagogic structure of theory and design learning i:e Spatial, Conceptual, Critical aspects of history of architecture. These aspects required to be mobilized through various spectrums of thoughts. Instead of learning history of architecture through time line, it is proposed to establish learning through simultaneous geographical section.
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COURSE METHODOLOGY	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 attempts 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.
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LECT	DATE	TEACHING CONTENT
1	16.12.2022	Introduction
2	23.12.2022	"What is History ?- Introduction to the study of History - Why do we study history of architecture , History as progress, Hyperreality "
3	06.01.2023	Introduction to the Agrarian Economy
4	13.01.2023	Nature Worshippers - Layout of Indus city - Great granary
5	20.01.2023	God spoke to the priests – Male order - Indian Caste System - Vedas - Progeny - Divine Rights Theory
6	27.01.2023	Assignment Introduction – Writing a Personal History through an heirloom
7	03.02.2023	Working class & Discussion – Writing a Personal History through an heirloom
8	10.02.2023	Working class & Discussion – Writing a Personal History through an heirloom
9	03.03.2023	Working class & Discussion – Writing a Personal History through an heirloom
10	10.03.2023	Final Submission – Writing a Personal History through an heirloom

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
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READING LIST/ REFERENCES	1. Brown, Percy. Indian Architecture (Buddhist And Hindu Period). Read books (2nd ed. Edition 2010) 2. Flectcher, Bannister, Sir. History of Architecture, Oxford: Architectural Press, (1996)
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Rubrics 1 :

Year of Assessment: 2022-23	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		BARC105	50	50	2			
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 minimal understanding of the case, somewhat able to identify determinants	An minimal understanding of the case,	Little or no understanding 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% attendance or more, active participation in class and excellent conduct overall	90% attendance or more, good participation in class and very good conduct overall	80% - 90% attendance, active participation in class and excellent conduct overall	80% - 90% attendance, good participation in class and very good conduct overall	70% - 80% attendance, active participation in class and excellent conduct overall	70% - 80% attendance, good participation in class and very good conduct overall	50% - 70% attendance	50% - 70% attendance	50% attendance or less

Rubrics :

Year of Assessment: 2022-23	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				
FIRST YEAR – Sem 1	History	BARC 105	50	50	1HU + 1CP					
Exercise: Title	Writing Family Histories									
Exercise Note / Task	Using an heirloom the student has to write their family history									
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										
Description of the object under consideration through drawing, text etc.	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	

CO-PO mapping									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To analyze particular phenomena through general concepts	3	3	2	1	2	2	1	1
CO2	Using the dialectical method or relational ideas to investigate phenomena	2	3	1	2	2	2	1	1
CO3	Exploring ideas of social theory through debate and to articulate them in written form	3	3	2	2	2	3	1	1
CO4	Enabling the student to question the role and purpose of history in architecture	3	3	3	1	0	3	1	3
CO5	Understanding the agrarian mode of production and social structures	0	0	1	2	0	3	2	2

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

COURSE CODE	106	CREDITS	2
COURSE NAME	Environmental Studies I	SESSIONAL MARKS	50
FACULTY	Aneerudha Paul, Ahana Sarkar, Anubhav Borgohain, Neha S	EXAM SCHEME	Internal
CLASS DAY/TIME	Thursday / 12:00-3:00 pm	NON-CLASS TIME	-

PEDAGOGIC INTENT	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 <u>habitat, community, environment, and topography</u> , focusing on sustainable and environment-sensitive design principles along with biodiversity creation and restoration.
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COURSE METHODOLOGY	The Environmental Studies course in the first year primarily focuses on hands-on practical exercises and projects where students will be asked to critically analyze the current biodiversity transects across a city at a macro-scale, whereas they will be asked to think and design spaces keeping in mind the environment perspectives. The course methodology would majorly comprise lectures and discussions, site visits, and an understanding of case studies.
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LECT	DATE	TEACHING CONTENT
1	13.12.2022	Role of environmental studies in architecture and development, Introduction to movements like ‘Rio declaration on environment and development 1992’, understanding the relevance of environment.
2	20.12.2022	Introduction to the fundamentals of geography, topography, climate, and habitat and their interrelationship
	27.12.2022	Christmas Break
3	03.01.2023	Introduction to the concepts of Biodiversity, Ecological footprint, and ecosystem services
4	10.01.2023	Introduction to biodiversity survey methods (transect plotting methods)
5	17.01.2023	Demonstrating case examples of biodiversity survey methods
6	24.01.2023	Role of architecture and habitat in environment and climate and maintaining biodiversity balance
7	31.01.2023	Six Principles of environment-sensitive Habitat (sustainable architecture)
8	07.02.2023	Case studies of environment-sensitive architecture projects and biodiversity creation/restoration projects
9	14.02.2023	Working on bio-diversity transect mapping
10	21.02.2023	Working on bio-diversity transect mapping
	28.02.2023	KRMLS week
11	07.03.2023	Presentation on bio-diversity transects

LEARNING OUTCOMES	1. To understand the importance of climatology and environment in architecture from a macro perspective.
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	2. To engage with the ideas and concepts that have shaped environment-sensitive architectural thinking.
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READING LIST/ REFERENCES	<ol style="list-style-type: none"> 1. Koenigsberger O.H et al. <i>Manual of Tropical Housing and Building: Climatic Design</i> 2. Nirmal Kishnani. <i>Greening Asia: Emerging principles for sustainable architecture</i>
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ASSIGNMENT	<ol style="list-style-type: none"> 1. Semester Submission- Assignment 1 Students will visit sites, map the bio-diversity transects and prepare sections on the current biodiversity including different bio-diversity elements (flora, fauna, blue-green infrastructure, habitat, occupant behavior, and their living and lifestyle patterns). The outcome will be in the form of presentation drawings.
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – Environmental Studies 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 inquiry, 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 concerning 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 can 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 I
Course Code: BARC 106
Sem 1
Year 22-23

Course Objectives:

The Environmental Studies Course will explore 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, focusing on sustainable and environment-sensitive design principles and biodiversity creation and restoration.

Course Outcomes (CO):

Course Outcome (CO)	Description
CO1	Understanding the importance of biodiversity, assessment of ecological footprints, awareness of ecosystem services, and inquiry into habitat dynamics.
CO2	To understand nature and built, and look at architecture as a response to the bio-geoclimatic conditions.

CO3	Analyze human effects on the environment, and propose sustainable design solutions.
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Rubrics:

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
Year of Assessment: 2022-2023	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	07.03.2023		
Exercise: Title	Transect Mapping and Analysis								
Exercise Note / Task	Students will visit sites, map the bio-diversity transects, and prepare sections on the current biodiversity including different bio-diversity elements (flora, fauna, blue-green infrastructure, habitat, occupant behavior, and their living and lifestyle patterns). The outcome will be in the form of presentation 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									
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 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

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	Understanding the importance of biodiversity, assessment of ecological footprints, awareness of ecosystem services, and inquiry into habitat dynamics.	2	1	1	2	1	1	1	1
CO2	To understand nature and built, and look at architecture as a response to the bio-geo-climatic conditions.	1	2	2	1	1	1	1	1
CO3	Analyze human effects on the environment, and propose sustainable design solutions.	3	2	1	2	1	1	2	1

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

COURSE CODE	BARC 107	CREDITS	6 credits
COURSE NAME	Architectural Representation and Detailing - I	SESSIONAL MARKS	150
FACULTY	Ankush, Karan, Aishwarya, Mamta, Mansi, Shirish, Sonal	EXAM SCHEME	Internal
CLASS DAY/TIME	WEDNESDAY 8:00 to 3:00pm	NON-CLASS TIME	6

PEDAGOGIC INTENT	Developing the ability to visualize and learn hand - drafting skill
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COURSE METHOD	The course is an introduction to the technical tools for representation. It is a working studio and all course work will be completed in the studio hours. The course will cover orthographic projections, axonometric, isometric and perspective projections as a method to draw and represent spaces. The mode of teaching will be through a combination of lectures and studio. The assignments will introduce variations into drawing the objects/ space so that each student generates solutions unique to their designs
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
Week 1	14/12/2022	Setting up of board Sheet 1: Line Intensities drafting		
Week 2	21/12/2022	Sheet 2: Lettering sheet		
Week 3	28/12/2022	Christmas Break		
Week 4	04/01/2023	Sheet 3: tilted cube		
Week 5	11/01/2023	Sheet 4: Tilted cylinder		
Week 6	18/01/2023	Sheet 5: truncated pyramid		
Week 7	25/01/2023	Sheet 6: intersecting solids		
Week 8	01/02/2023	Sheet 7: Architecture composition exercise		
Week 9	08/02/2023	Sheet 8: pitched roof exercise – plans and sections		
Week 10	15/02/2023	Sheet 9: axonometric of pitched roof		
Week 11	22/02/2023	Elective Week		
Week 12	29/02/2023	Drafting the pieces for the Model of the pitched roof		
Week 13	08/03/2023	Building the model of the pitched roof		
Week 14	15/03/2023	Re-Do submission		
	19/03/2023	End of Semester		

LEARNING OUTCOMES	Establish a foundation to the technology sequence through a fundamental understanding of the reciprocal relationships between space, material and structure under a holistic approach.
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READING LIST/ REFERENCES	<ol style="list-style-type: none"> 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 D.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 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 Zannos
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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:

This course intends to look at the subject of Building Construction as a story of how individual elements and components in architecture are articulated together to create assemblies that in relation to the form of the architectural object ultimately informs the tectonic expression. The tectonic expression being an externalized projection of meaning of the building, lends itself to be experienced by the body/ bodies that inhabit it, thereby imprinting itself in the consciousness of the user, who in turn affect it by their sheer presence. In the first year, the tectonic is observed and understood through materials and their materiality or even their material-realities. The course recognizes how factors such as the context, cost, inherent properties of materials, skills available and the market dynamics affect how we as architects come to choose materials which we use to write stories of/ for those we design for.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understanding the role of Building elements in a system of construction that follow the mechanical behaviour of individual elements as well as the structural transfer of loads from one element to the other
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 representational materials such as erasers, wooden blocks and watchmaker sticks towards attaining equilibrium.

Rubrics:

Year of Assessment: 2022-2023	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 I		103	80 (Internal)		Studio (3) + Lecture (2) = 5	Multiple			
Exercise: Title	Tectonic Experiments through Building construction and systems								
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 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 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 incorporating the minimum requirements	Arbitrary and Adhoc Inquiry
Representation Technique and final submission	Final presentation is complete with all process, concept 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 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 very good quality.	Final presentation is complete with all 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 the process, concept and logic well 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 fair 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 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 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, structure, technique.	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 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.	

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, 2021-2022

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 that follow the mechanical behaviour of individual elements as well as the structural transfer of loads from one element to the other	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 Tectonic systems and principles through the articulation of materials	3	3	3	3	3	3	3	3	
CO5	Evaluation of structural articulation of representational materials such as erasers, wooden blocks and watchmaker sticks towards attaining equilibrium.	3	3	3	1	3	1	3	0	

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

COURSE CODE	120	CREDITS	2(Arch Theory) + 1(History) + 2(ARD)+ 1(Tech Studio)
COURSE NAME	College Projects 1	SESSIONAL MARKS	Internal – 100 (30+20+30+20)
FACULTY	Ginella George, Sarah George, Ankush Chandran, Sonal Sundararajan, Shirish Joshi, Mansi Bhatt, Aishwarya Padmanabhan, Mamta Patwardhan, Karan Rane	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 8.00 – 9.40am Monday / 1.20-3.00 pm Friday/ 1.20 -3.00pm Saturday/ 8.00 – 11.20am	NON-CLASS TIME	

Course 1: History

COURSE CODE	120	CREDITS	1 CP + 1 Hu
COURSE NAME	College Projects 1	SESSIONAL MARKS	Internal - 20
FACULTY	Ginella George, Sarah George	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 8.00 – 9.40am	NON-CLASS TIME	

PEDAGOGIC INTENT	The history of architecture for first three years needs to correspond to the larger pedagogic structure of theory and design learning i:e Spatial, Conceptual, Critical aspects of history of architecture. These aspects required to be mobilized through various spectrums of thoughts. Instead of learning history of architecture through time line, it is proposed to establish learning through simultaneous geographical section.
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COURSE METHODOLOGY	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 attempts 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.
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LECT	DATE	TEACHING CONTENT
1	16.12.2022	Introduction
2	23.12.2022	"What is History ?- Introduction to the study of History - Why do we study history of architecture , History as progress, Hyperreality "
3	06.01.2023	Introduction to the Agrarian Economy
4	13.01.2023	Nature Worshippers - Layout of Indus city - Great granary
5	20.01.2023	God spoke to the priests – Male order - Indian Caste System - Vedas - Progeny - Divine Rights Theory
6	27.01.2023	Assignment Introduction – Writing a Personal History through an heirloom
7	03.02.2023	Working class & Discussion – Writing a Personal History through an heirloom
8	10.02.2023	Working class & Discussion – Writing a Personal History through an heirloom
9	03.03.2023	Working class & Discussion – Writing a Personal History through an heirloom
10	10.03.2023	Final Submission – Writing a Personal History through an heirloom

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
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READING LIST/ REFERENCES	1. Brown, Percy. Indian Architecture (Buddhist And Hindu Period). Read books (2nd ed. Edition 2010) 2. Flectcher, Bannister, Sir. History of Architecture, Oxford: Architectural Press, (1996)
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Course 2: Arch Theory

COURSE CODE	120	CREDITS	2 CP
COURSE NAME	College Projects 1	SESSIONAL MARKS	Internal - 30
FACULTY	Ankush Chandran, Sonal Sundararajan	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 1.20 – 3.00pm	NON-CLASS TIME	

PEDAGOGIC INTENT	The course is an introduction to critical and analytical thinking. This is not intended to be a mere instructive course, but rather a space of debate and engagement. The intent of the course is to inculcate a habit of critical thinking and analysis in the students everyday lives and introduce the notion that concepts and practice are inextricably entangled, that one does not precede or supercede the other This is seen as necessary given the fact of the nature of schooling that creates a separation between the space of education , prescriptive exam oriented learning and the self and our engagement with the world. Very often this results in a removed, mechanical engagement within learning that has to be dismantled in the first year itself. The course begins to introduce critical theoretical concepts, through an examination of the students ideas of everyday objects and concepts and thus their notions of self and world.
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COURSE METHOD	Every class will consist of presentations by students followed by a lecture by faculty to discuss the larger ideas embedded within objects.
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LECT	DATE	TEACHING CONTENT
1	16.12.2022	Images of the Self- Portraiture in art, Patronage, The Gaze. The move to abstraction, (Discussions- how do you form an image of yourself? Is this image a separate thing from the body?)
2	23.12.2022	Images of the Self- Portraiture in art, Patronage, The Gaze. The move to abstraction, Discussion -desired bodies/ideal bodies and . the male gaze.)
3	06.01.2023	Presentations by Students on Portraits of Public Figures and the ideas embedded in
4	13.01.2023	the imagery.
5	20.01.2023	Nature As Image- Romanticism in Art, The picturesque aesthetic, The Impressionists, Land Art etc.Discussios"nature' versus "ecology". "nature imitates art". "Nature vs manmade"
6	27.01.2023	Romanticism in Art, The picturesque aesthetic, The Impressionists,
7	03.02.2023	Drawing Shadows- Class Exercise
8	10.02.2023	Nature As Image- Romanticism in Art, The picturesque aesthetic, The Impressionists, Land Art etc.Discussions on "nature' versus "ecology". "nature imitates art". "Nature vs manmade"

9	03.03.2023	Romanticism in Art, The picturesque aesthetic, The Impressionists,
10	10.03.2023	Presentations by Students on Nature as Image

LEARNING OUTCOMES	An attitude of critical reflection and thinking about the world that surrounds them.
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CO-PO mapped syllabi of B.Arch Course 2022-2023_ College Projects 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 delay 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 1 **Sem: 1** **First Year**
Course Code: 120

Course 1: College Projects 1 (History) **Sem: 1** **First 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 1: College Projects 1 **Sem: 1** **First Year**
(Architectural Theory)

Course Objectives:

- Introduce critical thinking around techniques of representation in art and images in the contemporary world.
- To understand and explore drawing as a method/ way of seeing and understanding the world.
- Trace a critical history of the visual world, images, the world of representations, etc. and expose students to a history of questions and methods of representation (of bodies, nature, space, objects).
- Draw parallels between ways of seeing, systems of production, a history of culture and forms of representation and expression.

Course Outcomes (CO): (Combined Course outcomes for Arch Theory and History)

Course Outcome (Co)	Description
CO1	Enable students to understand relationships between the choice of medium, critical or expressive intents, and the making of images in contemporary times.
CO2	Recall and understand through the history of images, ideas that shaped the contemporary world,
CO3	Enable students to reflect on the ethical implications of what they choose to represent and how they choose to do so.
CO4	Enabling the student to question the role and purpose of history in architecture
CO5	Understanding the agrarian mode of production and social structures

Rubrics 1 (History):

Year of Assessment: 2022- 2023	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 1	College Projects1 (History)		120	20	20	1 CP + 1 Hu			
Exercise: Title	Writing Family Histories								
Exercise Note / Task	Using an heirloom the student has to write their family history								
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	7.4 - 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	Extremely articulate in framing the area for inquiry. 2) Very clear structure for presentation. 3) Well researched	Very articulate in framing the area for inquiry. 2) Clear structure for presentation. 3) Well researched	Clear and Articulate in framing the area for inquiry. 2) Well researched structure for presentation.	There is clarity in the area of inquiry 2) Research and structure for presentation is fairly good.	The area of inquiry is fairly good 2) Research and structure for presentation can be better.	The area of inquiry is good 2) Research and structure for presentation is fair.	There is clarity in the area of inquiry 2) Research and structure for presentation is found lacking	There is potential for an area of inquiry but needs more clarity. 2) No research and structure for presentation	Submission
Participation in Studio	tends more than 90% of total classes	tends 86 to 90% of total classes	tends 76 to 85 % of total classes	tends 71 to 75 % of total classes	tends 66 to 70 % of total classes	tends 61 to 65 % of total classes	tends 56 to 60 % of total classes	tends 51 to 55 % of total classes	tends less than 50 % of total classes

Rubrics 2 (Arch Theory):

Year of Assessment:	USM's Kamla Raheja Vidyaniidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
Year & Sem	Subject: Visual Studies	Subject Code	University Subject Code	Sessional Marks: 100	Exercise 01: Marks out of	Credits	Date of submission	Upgarde 01	Upgrade 02	
Exercise: Title	Images of the World									
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										
Choices, Conceptual understanding of the subject	Selections and observations reflect a new and innovative interpretation of the concepts discussed in class. The work breaks new conceptual ground in its exploration of the subject and brings new ideas into the discussion.	Selections and observations reflect a new and innovative interpretation of the concepts discussed in class. The work brings new ideas into the discussion.	Selections and observations reflect an exceptional and thorough understanding of the concepts discussed in class. The concepts are clearly articulated through the work	Selections and observations reflect an exceptional understanding of the concepts discussed in class. The concepts are clearly and expansively articulated through the work	Selections and observations reflect a thorough understanding of the concepts discussed in class. The concepts are clearly articulated through the work	Selections and observations reflect a clear understanding of the concepts discussed in class. The concepts are clearly articulated through the work	Selections and observations reflect a fair understanding of the concepts discussed in class. The concepts are fairly articulated through the work	Selections and observations reflect a satisfactory understanding of the concepts discussed in class. The concepts are satisfactorily articulated through the work	Selections and observations reflect a complete lack of understanding of the concepts. The work bears no relevance to them.	
Observations and process work	Observations reflect research work that shows new, innovative ways of thinking about the subject and nuanced understanding of the subject. Process shows evolution of thought reflected clearly. Student formulates new methodologies through process work	Observations reflect extensive research and nuanced understanding of the subject. Process shows evolution of thought reflected clearly.	Observations reflect research and holistic understanding of the subject. Process shows evolution of thought reflected clearly.	Sharp observations and keen insights on subject. Very good research process.	Observations and insights reflect a thorough understanding of the subject. Good research process.	Good observations and insights on subject. Good research process.	Satisfactory observations and insights on subject. A decent research process.	Minimal research and superficial understanding of the subject.	No keen observations, no research and effort.	
Representation Technique and final submission	Innovative and inventive techniques of representation and presentation. Work breaks new ground. The quality of presentation reflects outstanding skill rigour and effort.	Innovative and inventive techniques of representation and presentation. The quality of presentation reflects exceptional skill rigour and effort.	Outstanding techniques of representation and presentation. Quality of work reflects great rigour, skill and effort.	Excellent techniques of representation and presentation. Quality of work reflects rigour, skill and effort.	Very good techniques of representation and presentation. Quality of work reflects rigour, and effort.	Techniques of representation and presentation are good. Quality of work reflects rigour, and effort.	A fair demonstration of Techniques of representation and presentation.	A satisfactory demonstration of Techniques of representation and presentation. Work shows minimal effort but completes the task to the most basic requirements.	An extremely poor demonstration of Techniques of representation and presentation. Minimal effort, displaying a complete lack of engagement.	

Attendance, time management and participation in Studio and group work	Attendance is 90% and above. Demonstrates active participation in class and takes leadership and active responsibility within class. Raises questions and issues that expand the discussions.	Attendance is 80% and above. Demonstrates active participation in class and takes leadership and active responsibility within class. Raises questions and issues that expand the discussions.	Attendance is 79%-75% and above. Demonstrates active participation in class and takes leadership and active responsibility within class. Raises questions and issues that expand the discussions.	Attendance is 74%-70% and above. Demonstrates active participation in class, asks questions and demonstrates an active curiosity for the subject.	Attendance is 69%-65% and above. Demonstrates active participation in class, asks questions and demonstrates an active curiosity for the subject.	Attendance is 64%-60% and above. Demonstrates active participation in class, asks questions and demonstrates an active curiosity for the subject.	Attendance is 59%-55% and above. Shows fair participation in class.	Attendance is 54%-50% and above. Shows minimal participation in class.	Attendance is 49%-40% and above. Shows no participation in class.
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COPQ 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	Enable students to understand relationships between the choice of medium, critical or expressive intents, and the making of images in contemporary times.	3	2	2	3	3	1	2	2
CO2	Recall and understand through the history of images, ideas that shaped the contemporary world,	3	2	2	3	3	2	2	0
CO3	Enable students to reflect on the ethical implications of what they choose to represent and how they choose to do so.	3	2	2	3	3	1	2	2
CO4	Enabling the student to question the role and purpose of history in architecture	3	3	3	1	0	3	1	3
CO5	Understanding the agrarian mode of production and social structures	0	0	1	2	0	3	2	2

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

Semester 2

Scheme of Teaching and Examinations

Sub No.	Semester II Exam conducted by individual colleges COURSES	Teaching Scheme		Credits		
		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

Sub. No.	Semester II Exam Exam conducted by individual colleges SUBJECTS	Examination Scheme			
		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

Time-Table

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
8.00 - 8.50	Architectural Design & Allied Design & College Projects		Technology Lecture 2 (EVS)		Drawing Studio (ARD)		History Lecture		Architectural Design & Allied Design			
	201/202/220	2AD+2ALD+3CP	206	2 EVS	207	4 ARD	205/220	1HUM+1CP	201/202	2AD+2ALD		
8.50 - 9.40	Shirish Sonal Misbah , Aishwarya Krupa S , Shivani S Lorenzo F Rohit K		Paul Ahana ,Neha , Anubhav		Shirish Sonal Misbah , Aishwarya Krupa S , Shivani S Lorenzo F Rohit K		Ginella Sarah		Shirish Sonal Misbah , Aishwarya Krupa S , Shivani S Lorenzo F Rohit K			
9.40 - 10.30			Technology Lecture 1 (ABC)				Humanities					
10.30 - 11.20			203	2of 5 ABC			205	2 HUM				
			Aishwarya				Hussain Shweta , Karan					
11.20 - 12.00	B R E A K											
12.00-12.50	Studio		Technology Studio (ABC)		Theory of Structures				ENCOUNTERS			
			3 of 5 ABC									
12.50 - 1.20	L U N C H B R E A K											
1.20 - 2.10	Studio		Technology Studio (ABC)		Theory of Structures		Theory of Design		VISUAL STUDIES (studio)			
2.10 - 3.00			203		3 ABC		204		220		207	
			Shirish, Aishwarya Mamta , Jayashree , Anubhav		Rajitha		Manoj Apoorva Rutika		Sonal, Apoorva I , Ankush			
33 +3 Electives = 36	7		7		7		6		6			

COURSE CODE	BARC 201	CREDITS	4AD+3CP
COURSE NAME	ARCHITECTURAL DESIGN	SESSIONAL MARKS	150
FACULTY	Aishwarya, Misbah, Shivani, Shirish, Sonal, Lorenzo, Rohit, Mansi	EXAM SCHEME	Viva Voce (150 marks)
CLASS DAY/TIME	MONDAY/ 8.00 – 11:20 AM FRIDAY/ 8.00 – 11.20am	NON-CLASS TIME	2 hours per week

PEDAGOGIC INTENT	<p>Course Objectives The second semester Architectural Design as response to context, spatial quality and experience- scale, tectonics and material consciousness.</p> <p>Pedagogic Intent To learn Iterative drawing, model making as architectural design process To develop an understanding of scale, spatial experience, material consciousness- tectonic expression. To learn techniques Representation of architecture that incorporate material consciousness and intuitive structural logic. Haikus for Malvan The semester two architectural design project introduces the concept of a Haiku as and a form and an experiential phenomenon. The 5-7-5 syllable structure is designed to be read in the duration of a breath. This structure aims to capture moments of sudden discoveries and sensations that last the duration of one breath. Haikus are also about the time of the day and seasons. 20-40 haikus are distributed randomly amongst the students. Each student will interpret, explore, express, the haiku through the process of drawing. The haiku is translated as a moment of spatial discovery and is inserted as an annexe on site. The programme emerges from the students' study, experience and understanding of the site.</p>
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COURSE METHODOLOGY	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.
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			Lecture/ presentation of experiential drawings drawing as process
10.04.2023	16.04.2023	3	Drawing the haiku as a spatial experience exploring through models
17.04.2023	23.04.2023	3	Drawing the haiku on site exploring through models - use their study drawings to explore the haiku
24.04.2023	30.04.2023	3	Drawing the haiku on site exploring through models - use their study drawings to explore the haiku Jury - 28.04.2023
01.05.2023	07.05.2023	3	Holiday
08.05.2023	14.05.2023	3	Holiday
15.05.2023	21.05.2023	3	Holiday
22.05.2023	28.05.2023	3	Holiday
29.05.2023	04.06.2023	3	Holiday
05.06.2023	11.06.2023	3	Exploration of form through drawings and models
12.06.2023	18.06.2023	3	Exploration of form through drawings and models
19.06.2023	25.06.2023	3	Working studio - resolution of drawings, models
26.06.2023	02.07.2023	3	Working studio - resolution of drawings, models
03.07.2023	09.07.2023	3	Design week - Final jury- 08.07.2023

LECT	DATE	TEACHING CONTENT	
	03.04.2023	09.04.2023	3
			study trip drawings - exhibition on 06.03.2023 (Thursday)

CO-PO mapped syllabi of B.Arch Course 2022-2023_Architectural Design/ Sem 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 Design

Sem:1

First Year

Course Objectives

The second semester Architectural Design as response to context, spatial quality and experience- scale, tectonics and material consciousness.

Pedagogic Intent

To learn Iterative drawing, model making as architectural design process

To develop an understanding of scale, spatial experience, material consciousness-tectonic expression. To learn techniques Representation of architecture that incorporate material consciousness and intuitive structural logic.

Haikus for Malvan

The semester two architectural design project introduces the concept of a Haiku as and a form and an experiential phenomenon. The 5-7-5 syllable structure is designed to be read in the duration of a breath. This structure aims to capture moments of sudden discoveries and sensations that last the duration of one breath. Haikus are also about the time of the day and seasons.

20-40 haikus are distributed randomly amongst the students. Each student will interpret, explore, express, the haiku through the process of drawing. *The haiku is translated as a moment of spatial discovery and is inserted as an annexe on site.* The programme emerges from the students' study, experience and understanding of the site.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand the relationship between the body and form ,space, scale.
CO2	To author/create a unique work through and Iterative design process
CO3	To understand and evaluate tools of drawing and making, working with different materials.
CO4	To understand and analyse context

Rubrics :

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
Year of Assessment: 2017-2018									
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		BARC202	150	100	4 AD+3 CP	13th April 2018		
Exercise: Title	Haikus for Malvan								
Exercise Note / Task	<p>Haikus for Malvan The semester two architectural design project introduces the concept of a Haiku as and a form and an experiential phenomenon. The 5-7-5 syllable structure is designed to be read in the duration of a breath. This structure aims to capture moments of sudden discoveries and sensations that last the duration of one breath. Haikus are also about the time of the day and seasons. 20-40 haikus are distributed randomly amongst the students. Each student will interpret, explore, express, the haiku through the process of drawing. <i>The haiku is translated as a moment of spatial discovery and is inserted as an annexe on site.</i> The programme emerges from the students' study, experience and understanding of the site.</p>								
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 Enquiry as a response to context.	Unique and original choice that reflects a deep and profound understanding of the context.	Unique and original choice that reflects a clear understanding of the context.	Outstanding choice that reflects a clear understanding of the context	Excellent choice that reflects a clear understanding of the context.	Choice reflects a very good understanding of the context.	Choice reflects a good understanding of the context	Choice reflects a fair understanding of the context	Choice reflects satisfactory understanding of the context	Choice reflects an complete lack of effort at understanding.
Engagement with the process of explorations of form and material.		Outstanding rigour, effort 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.	Satisfactory amount of rigour and engagement through the process.	Work reflect a. failure to engage in the process.

The quality of final work.	The final work is of outstanding quality. It is innovative and original displaying outstanding 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.
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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	To understand the relationship between the body and form ,space, scale.	1	3	3	3	3	3	2	1	
CO2	To author/create a unique work through and Iterative design process	2	3	2	2	0	2	3	1	
CO3	To understand and evaluate tools of drawing and making, working with different materials.	2	3	3	2	3	3	1	1	
CO4	To understand and analyse context	3	3	3	3	2	2	3	0	

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

COURSE CODE	BARC 202	CREDITS	4ALD
COURSE NAME	ALLIED DESIGN	SESSIONAL MARKS	150
FACULTY	Aishwarya, Misbah, Shivani, Shirish, Sonal, Lorenzo, Rohit, Mansi	EXAM SCHEME	Viva Voce (150 marks)
CLASS DAY/TIME	MONDAY/ 8.00 – 11:20 AM FRIDAY/ 8.00 – 11.20am	NON-CLASS TIME	2 hours per week

PEDAGOGIC INTENT	<p>Course Objectives The second semester Architectural Design as response to context, spatial quality and experience- scale, tectonics and material consciousness.</p> <p>Pedagogic Intent To learn Iterative drawing, model making as architectural design process To develop an understanding of scale, spatial experience, material consciousness- tectonic expression. To learn techniques Representation of architecture that incorporate material consciousness and intuitive structural logic. Haikus for Malvan The semester two architectural design project introduces the concept of a Haiku as and a form and an experiential phenomenon. The 5-7-5 syllable structure is designed to be read in the duration of a breath. This structure aims to capture moments of sudden discoveries and sensations that last the duration of one breath. Haikus are also about the time of the day and seasons. 20-40 haikus are distributed randomly amongst the students. Each student will interpret, explore, express, the haiku through the process of drawing. The haiku is translated as a moment of spatial discovery and is inserted as an annexe on site. The programme emerges from the students' study, experience and understanding of the site.</p>
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COURSE METHODOLOGY	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.
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LECT	DATE	TEACHING CONTENT	
	03.04.2023	09.04.2023	study trip drawings - exhibition on 06.03.2023 (Thursday)
	10.04.2023	16.04.2023	Lecture/ presentation of experiential drawings drawing as process Drawing the haiku as a spatial experience exploring through models
	17.04.2023	23.04.2023	Drawing the haiku on site exploring through models - use their study drawings to explore the haiku
	24.04.2023	30.04.2023	Drawing the haiku on site exploring through models - use their study drawings to explore the haiku Jury - 28.04.2023
	01.05.2023	07.05.2023	Holiday
	08.05.2023	14.05.2023	Holiday
	15.05.2023	21.05.2023	Holiday
	22.05.2023	28.05.2023	Holiday
	29.05.2023	04.06.2023	Holiday
	05.06.2023	11.06.2023	Exploration of form through drawings and models
	12.06.2023	18.06.2023	Exploration of form through drawings and models
	19.06.2023	25.06.2023	Working studio - resolution of drawings, models
	26.06.2023	02.07.2023	Working studio - resolution of drawings, models
	03.07.2023	09.07.2023	Design week - Final jury- 08.07.2023

CO-PO mapped syllabi of B.Arch Course 2022-2023_Allied Design Sem 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: Allied Design

Sem:2

First Year

Course Objectives:

Course Objectives

The second semester Architectural Design as response to context, spatial quality and experience- scale, tectonics and material consciousness.

Pedagogic Intent

To learn Iterative drawing, model making as architectural design process

To develop an understanding of scale, spatial experience, material consciousness-tectonic expression. To learn techniques Representation of architecture that incorporate material consciousness and intuitive structural logic.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To understand, analyse and interpret the text work.
CO2	To engage in a iterative process of explorations through drawing
CO3	To author/create a unique work through and Iterative design process

Rubrics :

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture										
Year of Assessment: 2017-2018	Year & Sem	Subject:	Subject Code	Univer sity Subject Code	Sessiona l Marks: 150	Exercise 01 Marks out of	Credits	Date of submissi on		
	FIRST YEAR - SEM 2	Allied Design		BARC2 02	150	100	4ALD	13th April 2018		
Exercise: Title	Haikus for Malvan									
Exercise Note / Task	<p>Haikus for Malvan The semester two architectural design project introduces the concept of a Haiku as and a form and an experiential phenomenon. The 5-7-5 syllable structure is designed to be read in the duration of a breath. This structure aims to capture moments of sudden discoveries and sensations that last the duration of one breath. Haikus are also about the time of the day and seasons. 20-40 haikus are distributed randomly amongst the students. Each student will interpret, explore, express, the haiku through the process of drawing.</p>									
Assessment			Outsta nding	Excellen t	Very Good	Good	Fair	Satisfac 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										
Choice and Nature of Enquiry as a response to context.	Unique and original choice that reflects a deep and profound understanding of theist.	Unique and original choice that reflects a clear understanding of the context.	Outstand ing choice choice that reflects a clear understanding of the context	Excellent choice choice that reflects a clear understanding of the context.	Choice reflects a very good understanding of the context.	Choice reflects a good understanding of the context	Choice reflects a fair understanding of the context	Choice reflects satisfactory understanding of the context	Choice reflects an complete lack of effort at understanding.	
Engagement with the process of explorations of form and material.		Outstandin g rigour, effort and immersion in iterative processes. Self-relexive and iterative process work.	Outstand ing rigour, effort and consisten cy of work. Self-relexive and iterative process work.	Excellent rigour, effort and consisten cy of work.	Very good engageme nt with iterative processes.	Good engageme nt with iterative processes.	Fair amount of rigour and engagemen t through the process.	Satisfact ory amount of rigour and engagem ent through the process.	Work reflect a. failure to engage in the process.	

The quality of final work.	The final work is of outstanding quality. It is innovative and original displaying outstanding 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.
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COPO Mapping Setup for Sem 2

CO-PO mapping for a course of “PG program”									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO4	PO5	PO6	PO7	PO8
1	To understand, analyse and interpret the text work.	3	2	2	1	0	0	0	1
2	To engage in a iterative process of explorations through drawing	2	3	3	1	0	0	0	0
3	To author/create a unique work through and Iterative design process	3	3	3	1	0	0	0	0

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

COURSE CODE	BARC 203	CREDITS	5 (Split between Architectural Design and Architectural Building construction & Materials Lecture) Credits assigned for Architectural Building Construction and Material - 2ABC + 1TOS AD includes 3ABC credits
COURSE NAME	Architectural Building Construction and Materials	SESSIONAL MARKS	(50 (AD) + 30) + 20 (TOS)
FACULTY	Shirish Joshi, Aishwarya Padmanabhan, Mamta Patwardhan	EXAM SCHEME	Internal (70) + Theory (80) = 150
CLASS DAY/TIME	TUESDAY, 8:00am to 9:40 am SATURDAY, 8:00 to 11:20 am	NON-CLASS TIME	3

PEDAGOGIC INTENT
The intent of the technology studio is to involve the body as a way of understanding the tangible- material world around us. As the eye sees, estimates, and positions oneself within the environment, the body simultaneously measures, experiences, engages and brings into form what is imagined. It is through materials that the body makes its way through the world and explores the plethora of possibilities that the inherent qualities of each material allows for. The focus of the course is on the intimate relationship between the body and its physiological experiences to the forces of nature of gravity, mass, stress, strains, light, wind, humidity, heat, etc. that are in turn looked at as materials which in combination with other materials form systems and syntaxes. Pedagogically the objectives are to explore the body as a unit of measure, observation, exploration and representation. The body shall be means of analytical understanding of geometries, equilibrium and stability of objects inherent in nature and those that are produced through culture.

OBJECTIVES
Understanding of how tectonic and stereotomic expressions can enrich and define the spatial qualities in architecture.

COURSE METHOD
The course eases the students into the world of making, construction, architectural production, building and execution, realizing that each of these aspects take on different meanings in different contexts, socially, culturally, historically, geographically, and economically. By understanding what a material means, beyond it being a mere resource, and instead is seen as means of manifesting ideas and concepts that are realized through processes that may be planned or even experimented with, the course opens up multiple approaches and applications of a single material or materials in combination. The assemblage of materials, observed by the eye and found through the act of drawing, in the form of sketches followed by technical drawing of crucial details, becomes the method adapted for this course. To further engage the students with actual materials, the course shall include smaller exercises that encourages students to spend time on site with the makers in order to be introduced to various techniques, material behaviour, the social dynamics and perceptions of labour.

WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
Week 15	30/03/2023	Lecture conducted on study trip site (Malvan). Load bearing systems and wood as a material. Basic joineries understanding		
Week 1	04/04/2023	Holiday -Mahavir Jayanti		
(Studio)	08/04/2023	Exercise: using watchmaker sticks assembling forms that are modifications of the		

		previous forms, to tests how the form can be self-sufficient in achieving equilibrium	
Week 2	11/04/2023	Introduction to spanning elements – flat roof/ ceiling, long span structures, domes and vaults, etc. Introduction to fenestrations and opening and how to articulate them within walling systems	
(Studio)	15/04/2023	Exercise: using watchmaker sticks to assemble simple spanning structures and test them with a load	
Week 3	18/04/2023	Introduction to roofing systems – flat roof/ceiling in timber. The hierarchy of timber members and elements and their purpose in the overall system.	
	22/04/2023	Exercise: using watchmaker sticks to assemble simple spanning structures and test them with a load	
Week 4	25/04/2023	Continuation of roofing - Sloping roofs	
(Studio)	29/04/2023	Exercise: using watchmaker sticks to assemble simple spanning structures and test them with a load	
Week 5	02/05/2023	Holiday – Summer break	
(Studio)	06/05/2023	Holiday – Summer break	
Week 6	09/05/2023	Holiday – Summer break	
	13/05/2023	Holiday – Summer break	
Week 7	16/05/2023	Holiday – Summer break	
	20/05/2023	Holiday – Summer break	
Week 8	23/05/2023	Holiday – Summer break	
	27/05/2023	Holiday – Summer break	
Week 9	30/05/2023	Holiday – Summer break	
	03/06/2023	Holiday – Summer break	
Week 10	06/06/2023	Holiday – Summer break	
	10/06/2023	Holiday – Summer break	
Week 11	13/06/2023	Wood as a material	Defects in wood
	17/06/2023	Exercise: Design , drafting and hands-on model of a truss articulation	
Week 12	27/06/2023	Types and basic understanding of mechanical behaviour of timber joineries.	Design your own joineries based on the understanding of its mechanical behaviour

01/07/2023	Exercise: Design , drafting and hands-on model of a truss articulation
Week 13 04/07/2023	Glossary of elements
08/07/2023	Glossary of elements
LEARNING OUTCOMES	Establish a foundation to the technology sequence through a fundamental understanding of the reciprocal relationships between space, material and structure under a holistic approach.
READING LIST/ REFERENCES	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 D.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 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 Zannos

CO-PO mapped syllabi of B.Arch Course 2022-2023 – *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 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 Building Construction and Materials
Course Code: BARC 203

Sem 2

First Year

Course Objectives:

This course intends to look at the subject of Building Construction as a story of how individual elements and components in architecture are articulated together to create assemblies that in relation to the form of the architectural object ultimately informs the tectonic expression. The tectonic expression being an externalized projection of meaning of the building, lends itself to be experienced by the body/ bodies that inhabit it, thereby imprinting itself in the consciousness of the user, who in turn affect it by their sheer presence. In the first year, the tectonic is observed and understood through materials and their materiality or even their material-realities. The course recognizes how factors such as the context, cost, inherent properties of materials, skills available and the market dynamics affect how we as architects come to choose materials which we use to write stories of/ for those we design for.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Understanding the role of Building elements in a system of construction that follow the mechanical behaviour of individual elements as well as the structural transfer of loads from one element to the other
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: 2022-2023	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		203	80 (Internal)		Studio (3) + Lecture (2) = 5	Multiple			
Exercise: Title	Tectonic Experiments through 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 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 incorporating the minimum requirements	Arbitrary 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 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 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 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 satisfactory 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, structure, technique.	The models display an enthusiasm and effort to take on challenging levels of resolution. They are innovative 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.

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, 2021-2022

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 that follow the mechanical behaviour of individual elements as well as the structural transfer of loads from one element to the other	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 tectonic and experiential requirements	3	3	3	0	0	2	3	1	
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

COURSE CODE	BARC 204	CREDITS	3
COURSE NAME	Theory and design of structures 2	SESSIONAL MARKS	50
FACULTY	Rajitha Gopinath, Neeraj Vakharia	EXAM SCHEME	Theory exam – 50 marks
CLASS DAY/TIME	Saturday 12:00 to 3:00	NON-CLASS TIME	

PEDAGOGIC INTENT	How does the structure want to behave under external forces? What are the internal resisting forces that are generated? What are its inherent properties that provide it the necessary capacity to resist the forces? This requires introduction to geometrical and material properties.
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COURSE METHOD	Introduction to deformation, axial forces, bending, shear force, rotation and other such concepts. Experimental Learning with discussions and problem solving to understand the basics of structural systems.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
week 1	08/02/2023	Understanding Bending Moment, Shear Force through an experimental set up comprising of weighing scale, and Types of Support & Loading Conditions. what are fixed, roller and hinged support?	Numerical	
week 2	15/02/2023	Previous topic		
week 3	22/02/2023	Properties of materials through stress strain curve. Elastic Limit of different materials.		
week 4	01/03/2023	Ways of Creating Inner Space: Introduction to trusses. This can be in conjunction with bldg. construction/bldg. technology classes wherein we use models made in those classes for study		
week 5	08/03/2023	Holiday – Holi		
week 6	15/03/2023	Analysis of trusses wrt its nature of forces with method of joints and sections. Introduction to determinacy and how to calculate.		
week 7	22/03/2023	Holiday – Gudi padwa	Hands on exercise	
week 8	29/03/2023	Previous topic & exercise		
week 9	05/04/2023	Theory of simple bending and its application	Class test	
week 10	12/04/2023	Revision		

LEARNING OUTCOMES	To understand basic theory of fundamental mechanics and support systems
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READING LIST/ REFERENCES	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
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – *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:

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture										
Year of Assessment : 2022-2023	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	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										
	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 incorporating the minimum requirements	Arbitrary 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 Sem2

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

COURSE CODE	BARC 205 (2 CP Humanities, 1 CP history)	CREDITS	3
COURSE NAME	HUMANITIES (2022-23)	SESSIONAL MARKS	50 MARKS
FACULTY	Hussain, Shweta, Ginella, Sarah	EXAM SCHEME	THEORY PAPER 50 MARKS
CLASS DAY / TIME	Thursday 8 am	NON-CLASS TIME	2 hours

COURSE 1: Humanities

COURSE CODE	BARC 205	CREDITS	2
COURSE NAME	HUMANITIES (2022-23)	SESSIONAL MARKS	50
FACULTY	Hussain, Shweta	EXAM SCHEME	50 MARKS WRITTEN PAPER
CLASS DAY / TIME	Thursday 1.20 pm	NON-CLASS TIME	2 hours

COURSE DESCRIPTION	This course will enable students to think about some commonly used terms as 'concepts', and to examine them through binary constructions. Through this 'dialectical' method, students will learn how to develop concepts theoretically. Through the course students will also learn to seek understanding of particular phenomena through the use of general concepts.
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PEDAGOGIC INTENT / LEARNING OBJECTIVES	1) Thinking about particular phenomena through general concepts 2) Using the dialectical method to investigate ideas 3) Exploring ideas through debate and to articulate them in written form
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COURSE METHODOLOGY	The course will be a weekly lecture and discussion seminar - 2 hours per session. Each binary construction will take up two sessions. Each class will consist of different types of reading, writing and debating exercises.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS
1	9 th Feb	Introduction: the dialectic as a method	
2	16 th Feb		
3	23 rd Feb	Public and private	
4	2 nd Mar		
5	9 th Mar	Tradition and modernity	
6	16 th Mar		
7	23 rd Mar	Masculine and feminine	
8	30 th Mar		
9	6 th Apr	Order and disorder	
10	13 th Apr	Concluding seminar	

EVALUATION CRITERIA	The assignment (case study) will be given 75% of the weight. Class participation will be given 25% of the grade.
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COURSE 2: History

COURSE CODE	220	CREDITS	1 CP + 1 Hu
COURSE NAME	College Projects 2	SESSIONAL MARKS	Internal - 20
FACULTY	Ginella George, Sarah George	EXAM SCHEME	NIL
CLASS DAY/TIME	Thursday / 8.00 – 9.40am	NON-CLASS TIME	

PEDAGOGIC INTENT	The history of architecture for first three years needs to correspond to the larger pedagogic structure of theory and design learning i:e Spatial, Conceptual, Critical aspects of history of architecture. These aspects required to be mobilized through various spectrums of thoughts. Instead of learning history of architecture through time line, it is proposed to establish learning through simultaneous geographical section.
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COURSE METHODOLOGY	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 attempts 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.
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LECT	DATE	TEACHING CONTENT
1	06.04.2023	Persian Architecture. Nature-myth as determinants, Palace
2	13.04.2023	Persian Architecture
3	20.04.2023	Egyptian Architecture
4	27.04.2023	Egyptian Architecture + Indian Temples. Cosmological diagram, Temple
5	08.06.2023	Egyptian Architecture + Indian Temples. Stone - temples, pyramids, funerary temples
6	15.06.2023	Introduction to the Assignment
7	22.06.2023	Task 1 of Assignment – Selection of structure
8	29.06.2023	Task 2 of Assignment – Secondary source data collection
9	06.07.2023	Task 3 of Assignment – Drawing space through different attributes
10	13.07.2023	Final Submission – Assignment

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
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READING LIST/ REFERENCES	1. Brown, Percy. Indian Architecture (Buddhist And Hindu Period). Read books (2nd ed. Edition 2010) 2. Fletcher, Bannister, Sir. History of Architecture, Oxford: Architectural Press, (1996)
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CO-PO mapped syllabi of B.Arch Course 2022-23 – 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
Course Code: BARC105
Sem 2

Course Objectives:

- 1) Thinking about particular phenomena through general concepts
- 2) Using the dialectical method to investigate ideas
- 3) Exploring ideas through debate and to articulate them in written form

Course: History **Sem: 2** **First 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	To analyze particular phenomena through general concepts
CO2	Using the dialectical method or relational ideas to investigate phenomena
CO3	Exploring ideas of social theory through debate and to articulate them in written form
CO4	Enabling the student to question the role and purpose of history in architecture
CO5	Understanding the agrarian mode of production and social structures

Rubrics 2 :

Year of Assessment: 2022-23	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 2	Hum		BARC105	50	50	2			
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 minimal understanding of the case, somewhat able to identify determinants	An minimal understanding of the case,	Little or no understanding 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% attendance or more, active participation in class and excellent conduct overall	90% attendance or more, good participation in class and very good conduct overall	80% - 90% attendance, active participation in class and excellent conduct overall	80% - 90% attendance, good participation in class and very good conduct overall	70% -80% attendance, active participation in class and excellent conduct overall	70% -80% attendance, good participation in class and very good conduct overall	50% - 70% attendance	50% - 70% attendance	50% attendance or less

Rubrics :

Year of Assessment: 2022-23	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				
FIRST YEAR – Sem 2	History	BARC 105	50	50	1HU + 1CP					
Exercise: Title	Writing Family Histories									
Exercise Note / Task	Using an heirloom the student has to write their family history									
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										
Description of the object under consideration through drawing, text etc.	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	

CO-PO mapping									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To analyze particular phenomena through general concepts	3	3	2	1	2	2	1	1
CO2	Using the dialectical method or relational ideas to investigate phenomena	2	3	1	2	2	2	1	1
CO3	Exploring ideas of social theory through debate and to articulate them in written form	3	3	2	2	2	3	1	1
CO4	Enabling the student to question the role and purpose of history in architecture	3	3	3	1	0	3	1	3
CO5	Understanding the agrarian mode of production and social structures	0	0	1	2	0	3	2	2

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

COURSE CODE	206	CREDITS	2
COURSE NAME	Environmental Studies II	SESSIONAL MARKS	50
FACULTY	Aneerudha Paul, Ahana Sarkar, Anubhav Borgohain	EXAM SCHEME	Internal
CLASS DAY/TIME	Thursday / 12:00-3:00 pm	NON-CLASS TIME	-

PEDAGOGIC INTENT	<u>After a macro-level understanding of the interrelationship between biodiversity, ecosystem, community and habitat (in the 1st semester), the Environmental Studies Course in 2nd semester will focus on climatology, elements of climate, and how architectural design principles have responded to different climate zones. The passive design techniques will be explored with help of a range of case studies.</u>
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COURSE METHODOLOGY	The Environmental Studies course in the first year primarily focuses on hands-on practical exercises and projects where students will be asked to critically analyze the current biodiversity transects across a city at macro-scale, whereas they will be asked to think and design spaces keeping in mind the environment perspectives. The course methodology would majorly comprise of lectures and discussions, site visits, and understanding of case studies.
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LECT	DATE	TEACHING CONTENT
1	13.04.2023	Global climatic factors and elements of climate, Climate classification and site climate
2	20.04.2023	Introduction to passive techniques: daylighting and shadow analysis + Case Studies
3	27.04.2023	Introduction to passive cooling techniques: natural ventilation + Case Studies- Introduction to assignment
Summer Break		
4	01.06.2023	Demonstration on co-existence of architecture and nature, understanding bioclimatic chart and plotting of weather data
5	08.06.2023	Application and requirements: Shelter for hot-dry climate, warm humid climate, composite climate, tropical upland climate.
6	15.06.2023	Overview and case studies of vernacular architecture and its relation with climate
7	22.06.2023	Overview and case studies on contemporary architecture and its relation with climate
8	29.06.2023	Working on assignment
9	06.07.2023	Presentation on assignment

LEARNING OUTCOMES	<ol style="list-style-type: none"> To understand the importance of climatology and environment in architecture from a macro perspective. To engage with the ideas and concepts that have shaped environment-sensitive architectural thinking.
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READING LIST/ REFERENCES	<ol style="list-style-type: none"> Koenigsberger O.H et al. <i>Manual of Tropical Housing and Building: Climatic Design</i>
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	<ol style="list-style-type: none"> Nirmal Kishnani. <i>Greening Asia: Emerging principles for sustainable architecture</i>
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ASSIGNMENT	<ol style="list-style-type: none"> End of semester submission- Assignment 2 <p>Students will be asked to design a space (on the city transect) within a given volume by using passive design techniques for specific climate.</p>
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – Environmental Studies II

Program Educational Objective (PEOs): B.Arch.

- To nurture individuals towards a better understanding of learning methods to bridge the gap between theory and practice.
- To respond to innovative needs and environmental and social responsibility one should acquire excellence in the field both in academics and practice.
- 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.
- To nurture an intent to unlearn and reinterpret learning through the change, proceeding towards efficient and sustainable responses to varied situations.
- 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):

- 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).
- 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.
- To enable the student to recognize and build empathy towards the collective, other cultures, environments, and ecologies.
- To engage the student in enquiry through hands-on work.
- To enable the student to script one's own project
- To enable the student to observe, experience, analyze space, its physicality and its associations through the body.
- To enable the student to extract and the abstract from the experiential and center it as the basis of design
- To enable the student to break the boundary between abstract thought and material realities
- To enable students to discover multiple methods and tools to develop their own process of learning
- 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 II
Course Code: BARC 206
Sem 2
Year 22-23

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 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 passive design techniques as a part of climate responsive architecture.
CO3	To apply design ideas and concepts that will help shape environmentally sensitive architectural thinking.

Rubrics:

Year of Assessment : 2022-2023	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 2	EVS	BARC 206	50	50	2	06.07.2023			
Exercise: Title	Cabin Design								
Exercise Note / Task	Design a cluster of multiple single occupancy cabins in sites chosen from the studied in previous semester, responding to local climatic conditions along with cultural sensibilities								
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 position in planned space.	Fairly good understanding of systems 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
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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 passive design techniques as a part of climate-responsive architecture.	3	2	2	1	1	1	1	1
CO3	To apply design ideas and concepts that will help shape environmentally 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

COURSE CODE	BARC 207	CREDITS	6
COURSE NAME	Architectural Representation and Detailing-II	SESSIONAL MARKS	150
FACULTY	Ankush, Karan, Aishwarya, Mamta, Mansi, Shirish, Sonal	EXAM SCHEME	Internal
CLASS DAY/TIME	8:00 to 11:20 am, 46 hours	NON-CLASS TIME	

PEDAGOGIC INTENT	Developing the ability to visualize and learn hand-drafting skill
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OBJECTIVES	Understanding of how tectonic and stereotomic expressions can enrich and define the spatial qualities in architecture.
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COURSE METHOD	The course is an introduction to the technical tools for representation. It is a working studio and all course work will be completed in the studio hours. The course will cover orthographic projections, axonometric, isometric and perspective projections as a method to draw and represent spaces. The mode of teaching will be through a combination of lectures and studio. The assignments will introduce variations into drawing the objects/ space so that each student generates solutions unique to their designs
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LECT	DATE	TEACHING CONTENT
1	12.04.23	Spiral Geometries- Spiral Stair
2	19.04.23	The Grid Exercise- STAGE 1 Introduction, making the grid box, drawing sections.
3	26.04.23	The Grid Exercise- STAGE 1 Introduction, making the grid box, drawing sections.
4	7.06.23	The Grid Exercise- STAGE 2 Presentation of Models, ideas of distortion

5	14.06.23	The Grid Exercise- STAGE 2-Presentation of Models, ideas of distortion
6	21.06.23	The Grid Exercise- STAGE 2 Presentation of Models, ideas of distortion
7	27.06.23	Final Exhibition of Work- STAGE 3
8	05.07.23	Lecture- Revision Class. Reading architectural drawings

LEARNING OUTCOMES	Establish a foundation to the technology sequence through a fundamental understanding of the reciprocal relationships between space, material and structure under a holistic approach.
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READING LIST/ REFERENCES	<p>1] Building Construction : METRIC VOLUME 1&2 BY W.R.McKAY;</p> <p>2] Building Construction by S.C. Rangwala;</p> <p>3] Building Construction Illustrated Book by Frank Ching Download link : https://archive.org/details/FrancisD.K.ChingBuildingConstructionIllustratedWiley2014</p> <p>4] Building Construction Handbook Seventh edition R. Chudley</p> <p>5] Brick Work by Laurie Baker Download Link : http://costford.com/Brick%20work.pdf ,</p> <p>6] Rural House plans by Laurie Baker . Download link : http://www.costford.com/Rural%20House%20Plans.pdf</p> <p>7] Shigeru Ban Projects 8] The Modulor by Le Corbusier</p> <p>8] Structure and Architecture by Angus MacDonald</p> <p>9] The making of the modern architect and Engineer by Ulrich Pfammatter</p> <p>10] Form and Structure in Architecture by Alexander Zannos</p>
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – *Architectural Representation and Detailing 2*

Program Educational Objective (PEOs): B.Arch.

- 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.
- To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
- To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete)
- To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
- To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
- To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
- To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
- 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).

Programme-Specific Outcomes (PSOs):

1. To enable the student to be equipped with tools of 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 programs: B.Arch. Architectural Representation and Detailing Studios

<p>Program Outcomes (POs)</p>	<p>PO1 To develop the ability to visualize three dimensional form and represent it using the conventional techniques of architectural drawing and learn hand-drafting skills.</p> <p>PO2 To comprehend drawing as a tool of observation and analysis and design.</p> <p>PO3 To develop a familiarity with the history of representation techniques, in art and architecture and understand representation techniques as analytical and critical tools</p> <p>PO4 To develop an understanding of the choice of the modes of representation and their possibilities through experiments with various mediums.</p> <p>PO 5To develop the ability to push the boundaries of the map or drawing into analytical, descriptive, propositional and expressive possibilities.</p>
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Course Outcomes (CO): (Maximum number of course outcomes should be 5 and min 3 as per NAAC guidelines ,Ethics based etc)

Course: Architectural Representation and Detailing 2
Course Code: 207 Sem 2 First Year
KRVIA Course Code: ARD2

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.

Course Schedule

LECTURE	DATE	TEACHING CONTENT
1	12.04.23	Spiral Geometries- Spiral Stair
2	19.04.23	The Grid Exercise- STAGE 1 Introduction, making the grid box, drawing sections.
3	26.04.23	The Grid Exercise- STAGE 1 Introduction, making the grid box, drawing sections.
4	7.06.23	The Grid Exercise- STAGE 2 Presentation of Models, ideas of distortion
5	14.06.23	The Grid Exercise- STAGE 2-Presentation of Models, ideas of distortion
6	21.06.23	The Grid Exercise- STAGE 2 Presentation of Models, ideas of distortion
7	27.06.23	Final Exhibition of Work- STAGE 3
8	05.07.23	Lecture- Revision Class. Reading architectural drawings

Course Outcome (Co)	Description
CO1	Understand the techniques and methods for architectural representation.
CO2	Facilitate students to create orthographic projections, axonometric and isometric tools of representation of architecture
CO3	Enable students to evaluate the architectural representation as a method of investigating architectural design
CO4	Enable students to create, and manipulate three dimensional form and space by use the tools of representation

Rubrics:

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
Year of Assessment: 2022-2023	Year & Sem	Subject: Architectural Representation and Detailing II	University Subject Code	Sessional Marks:	Exercise 01: Marks out of	Credits	Date of submission	Upgrade 01	Upgrade 02
FIRST YEAR - SEM 2			207	150 (Internal)		6	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 drawing	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 followed a sequential process of arrival and is contingent to the next step.	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 achieve the final result. Every step of the method employed has followed a sequential process of arrival and is contingent to the next step.	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 have been used to achieve the final result. Most of the steps of the method has been employed in a sequential manner	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 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.	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. Duplicate methods have been used to achieve the final result. Not all steps of the method have been employed in a sequential manner.	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 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 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 a 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 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 neatness. 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 an innovative and sophisticated understanding of material, structure, and 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 understanding of material, structure, and technique.	The models display outstanding effort and rigour. They are excellently constructed, with a clear understanding of material, structure, and technique.	The models display excellent effort and rigour. They are well constructed, with a clear understanding of material, structure, and technique.	The models display a very good effort and rigour. They are well constructed, with a clear understanding of material, structure, and technique.	The models display a good effort and rigour. They are well constructed, with a clear understanding of material, structure, and technique.	The models display a fair amount of effort and rigour. They are constructed, with a fair understanding of material, structure, and technique.	The models display a satisfactory amount of effort and rigour. They are constructed, with a satisfactory understanding of material, structure, and technique.	The models display a lack of effort or rigour. They are poorly constructed, with no understanding of material, structure, and technique.
Time management and participation in Studio	100 %	99% -95%	94-91%	90-85%	84-81%	80-75%	74-70%	69-60%	Below 60%

COCO Mapping Setup for Sem 1, 2021-2022

CO-PO mapping for a course of B. Arch First Year Architectural Representation and Detailing I

Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understand the techniques and methods for architectural representation	1	1	2	0	0	0	1	0
CO2	Facilitate students to create orthographic projections, axonometric and isometric tools of representation of architecture	0	1	3	0	0	0	2	0
CO3	Enable students to evaluate the architectural representation as a method of investigating architectural design.	3	3	1	2	0	2	3	2
CO4	Enable students to create, and manipulate three dimensional form and space by use the tools of representation	1	2	3	0	0	0	3	3
CO5									

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

COURSE CODE	220	CREDITS	3(Arch Design & Allied Design) + 1(History) + 2(Architectural Theory)
COURSE NAME	College Projects 2	SESSIONAL MARKS	Internal – 100 (50+20+30)
FACULTY	Ginella George, Sarah George, Shirish, Sonal, Misbah , Aishwarya Krupa S, Shivani S, Lorenzo F, Rohit K, Rutika Parulkar, Apoorva Iyengar, Manoj Parmar	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 8.00 – 11.20am Thursday / 8.00 – 9.40am Thursday/ 1.20 -3.00pm	NON-CLASS TIME	

Course 1: History

COURSE CODE	220	CREDITS	1 CP + 1 Hu
COURSE NAME	College Projects 2	SESSIONAL MARKS	Internal - 20
FACULTY	Ginella George, Sarah George	EXAM SCHEME	NIL
CLASS DAY/TIME	Thursday / 8.00 – 9.40am	NON-CLASS TIME	

PEDAGOGIC INTENT	The history of architecture for first three years needs to correspond to the larger pedagogic structure of theory and design learning i:e Spatial, Conceptual, Critical aspects of history of architecture. These aspects required to be mobilized through various spectrums of thoughts. Instead of learning history of architecture through time line, it is proposed to establish learning through simultaneous geographical section.
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COURSE METHODOLOGY	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 attempts 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.
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LECT	DATE	TEACHING CONTENT
1	06.04.2023	Persian Architecture. Nature-myth as determinants, Palace
2	13.04.2023	Persian Architecture
3	20.04.2023	Egyptian Architecture
4	27.04.2023	Egyptian Architecture + Indian Temples. Cosmological diagram, Temple
5	08.06.2023	Egyptian Architecture + Indian Temples. Stone - temples, pyramids, funerary temples
6	15.06.2023	Introduction to the Assignment
7	22.06.2023	Task 1 of Assignment – Selection of structure
8	29.06.2023	Task 2 of Assignment – Secondary source data collection
9	06.07.2023	Task 3 of Assignment – Drawing space through different attributes
10	13.07.2023	Final Submission – Assignment

LEARNING OUTCOMES	1. Understanding Architecture as an outcome of socio cultural processes
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	2. Writing Architectural History 3. Unpacking history as interpretations rather than a sacred record
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READING LIST/ REFERENCES	1. Brown, Percy. Indian Architecture (Buddhist And Hindu Period). Read books (2nd ed. Edition 2010) 2. Flectcher, Bannister, Sir. History of Architecture, Oxford: Architectural Press, (1996)
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Course 2: Arch Theory

COURSE CODE	120	CREDITS	2 CP
COURSE NAME	College Projects 5	SESSIONAL MARKS	Internal - 30
FACULTY	Rutika Parulkar, Apoorva Iyengar, Manoj Parmar	EXAM SCHEME	NIL
CLASS DAY/TIME	Thursday/ 1.20 -3.00pm	NON-CLASS TIME	

PEDAGOGIC INTENT	Understanding the constitution of space and tectonics through objectivity
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COURSE METHOD	Principle's and position of space making (historical and argumentative)
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LECT	DATE	TEACHING CONTENT
1	06/04/2023	Drawing as Space: Historical Perspective
2	13/04/2023	Drawing as Space: Space People and Cartesian System
3	20/04/2023	Drawing as Space: Science, Euclidean Geometry and Rationalism
4	27/04/2023	Anthropometric and Anthropocentric Space: Historical Depiction Egyptian
5	08/06/2023	Anthropometric and Anthropocentric Space: Historical Depiction Greek and Indian
6	15/06/2023	Evolution of Space Theory: Ways of Seeing Group Assignment Introduction
7	22/06/2023	Real and Pictorial Space I Impressionism & Expressionism
8	29/06/2023	Real and Pictorial Space I Cubism & Constructivism
9	06/07/2023	Platonic Space: Pythagoras & Functionalism Group Assignment Introduction
10	13/07/2023	Presentation and discussion of the Assignment

LEARNING OUTCOMES	An attitude of critical reflection and thinking about the world that surrounds them.
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Rubrics 1 (History):

Year of Assessment: 2022- 2023	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	College Projects 2 (History)		120	20	20	1 CP + 1 Hu			
Exercise: Title	Spatial understanding of a historic building								
Exercise Note / Task	Students have to select a historic structure of their choice and specify atleast three parameters to analyse the structure.								
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	Extremely articulate in framing the area for inquiry. 2) Very clear structure for presentation. 3) Well researched	Very articulate in framing the area for inquiry. 2) Clear structure for presentation. 3) Well researched	Clear and Articulate in framing the area for inquiry. 2) Well researched structure for presentation.	There is clarity in the area of inquiry 2) Research and structure for presentation is fairly good.	The area of inquiry is fairly good 2) Research and structure for presentation can be better.	The area of inquiry is good 2) Research and structure for presentation is fair.	There is clarity in the area of inquiry 2) Research and structure for presentation is found lacking	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 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 2 (Arch Theory):

Year of Assessment : 2022-23	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 (Architectural Theory)		BARC 220	30		1 College Projects	13/07/23		
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 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
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

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	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	3	0	2	3	0
CO2	Conceptualization of space through history and also the idea of experience of space through history of different ideas.	3	3	2	2	1	2	2	0
CO3	To develop an understanding of reading drawings and history of architectural representation through space and time	0	2	3	0	0	1	3	0
CO4	Enabling the student to question the role and purpose of history in architecture	3	3	3	1	0	3	1	3
CO5	Understanding the agrarian mode of production and social structures	0	0	1	2	0	3	2	2

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

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

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. Architecturally 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.

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	Technology Studio 1 Const St.+ 1ABS +1 TOS +1 ABC=4 Vikram Minal Dharmesh Neeraj Shantanu K Kimaya Ahana S	Architectural Design Studio 301/307 3 AD+1ARD Apurva P Adwait A Ankush Ginella G Nikhil Kunal S Rutika Mayur	Allied Design Studio 302 3ALD +1 ectra Hussain George Sagarika Mansi Saurabh B Aahana S	History Lecture 320/305 1CP +1HUM Jamshid Aishwarya	Architectural Design Studio 301/307 3 AD+1ARD Apurva P Adwait A Ankush Ginella G Nikhil Kunal S Rutika Mayur				
8.50 - 9.40							Humanities 305 2 or 3 HUM Hussain Shweta		
9.40 - 10.30									Theory of Structures 304 2 of 3 TOS Bhargav Dharmesh
10.30 - 11.20									
11.20 - 12.00	B R E A K								
12-00-12.50	Technology Lecture 2 (EVS) 1EVS Kimaya Ahana	Technology Lecture 2 (EVS) 1EVS Kimaya Ahana			ENCOUNTERS				
12.50- 1.20									
1.20 - 2.10	Tectonic Studies (College Projects) 320 2CP Ginella Rutika	Technology Lecture 3 (ABS) 308 2 ABS Minal Ahana	Visual Studies (ARD) 307 2 ARD Sonal Mansi Rutika	Architectural Theory 309 2AT Rohan Ginella	Technology Lecture 1 (ABC) 303 2 ABC Vikram Shantanu K				
2.10 - 3.00									
33+3(Electives)= 36 credits	6	7	6	6	7	2			

COURSE CODE	301	CREDITS	6 + 2 ARD
COURSE NAME	Architectural Design Studio 3	SESSIONAL MARKS	200
FACULTY	Apurva Parikh , Ankush Chandran ,Ginella George Rutika Parulkar , Adwait Adke , Nikhil K , Kunal S , Mayur G	EXAM SCHEME	NIL
CLASS DAY/TIME	60 hours	NON-CLASS TIME	6.5 hrs/week

LECT	DATE	TEACHING CONTENT
1	05.07.2022	Introduction to Studio, Introduce sites and assign the sites Faculty Presentation and Discussion Presentation on sites and introduction to Bombay Division into groups. Site assigned to students and sent to site.
2	08.07.2022	Students bring their first site impressions. Desk Crit with guides (Site visit discussions , reading and analysis of the site , Documenting the context , Models and hand drawings) (list of objects as per instructed nature of the objects and discussion and curation of objects) Pick the objects which think will make you a cyborg.
3	12.07.2022	We get the students to pick at random, 2 chits, SITE + OBJECT and tell them that is the project. Sites will be assigned at random, so that each student might get to see and explore at least 2 sites in the city. Objects will be from a curated list of objects that we can select as a faculty group Further site reading discussions and coming up with words/metaphors which arises from the site readings.
4	15.07.2022	Discussions on words and metaphors initiating program discussion for each student. Faculty Presentation
5	19.07.2022	<i>Interim Jury (Concept Jury)</i>
6	22.07.2022	Desk Crit with guides. Refining the program and advancing into the process of concept development
7	26.07.2022	Desk crit - Concept development
8	29.07.2022	Desk crit - concept and initial design process development, Initiating process for the formal and spatial dimension of the program proposed . Discussions with models , hand drawings etc
9	02.08.2022	Desk crit - Design development Process: arriving upon the formal and spatial dimension of the program proposed . Discussions with models
10	05.08.2022	Desk crit - Design development Process - arriving upon the formal and spatial dimension of the program proposed . Discussions with models
11	09.08.2022	Desk crit - Design development Process - arriving upon the formal and spatial dimension of the program proposed . Discussions with models
12	12.08.2022	<i>Mid term Jury</i>

13	16.08.2022	<i>Holiday Parsi new year</i>
14	19.08.2022	Presentation of initial single line hand drawn plan sections and experimenting with models through calibrating scales
15	23.08.2022	Design detailing and resolving the drawings
16	26.08.2022	Design detailing and resolving the drawings
17	30.08.2022	Design detailing and resolving the drawings
18	02.09.2022	<i>Holiday Ganpati break</i>
19	06.09.2022	Design detailing and resolving the drawings
20	09.09.2022	<i>Jury / review</i>
21	13.09.2022	Faculty Presentation and discussions
22	16.09.2022	Design detailing and resolving the drawings
23	20.09.2022	<i>Pre Final Jury</i>
24	23.09.2022	Working on final presentations and discussion
25	27.09.2022	Working on final presentations and discussion
26	30.09.2022	<i>Final Jury</i>

CO-PO mapped syllabi of B.Arch. Course 2022-2023 – 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 delay 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
Second year

Course Code: 301

Sem 3

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 : 2022-2023	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 ARD	30/09/2022		

Exercise: Title	Bombay Futures Speculations on the architecture for the Future City								
Exercise Note / Task	<p>This year, the project was designed to investigate 12 sites. The formal process was driven by what we could call the idea of a ‘Cyborg.’ The studio (team of faculty + students collectively) identified objects that make us (human beings) cyborgs. These are objects that allow the extension of a human being’s abilities, beyond their natural limitations. The idea was to understand the manner in which the objects enables such extensions, and transpose it to the site, in the form of an architectural object. Architectural form was derived by metaphorising the cyborgian act suitably for the site’s specific requirements.</p> <p>The process itself was a game of chance, where each student picked two items at random, a site and an object or a set of objects. The Objects spliced together with the Site, or the body of the city, resulted in a cyborg architecture for the future city.</p> <p>spliced together with the Site, or the body of the city, results in a cyborg architecture for the future city. To put it simply, Site + Object/ technology = a new architecture for the place/ people/ city.</p>								
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 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 work	Extremely involved in taking lead and completing the group work with extraordinary innovative drawings	Moderately but seriously involved in taking lead and completing the group work with highly	Less moderately but seriously involved in taking lead and completing the group work with	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	Just for the sake involved in taking lead and completing the group work with very good	Not much active in site work but completing the requirements for own	No active participation in class and partial completion of the work	Disinterested

		innovative drawings	very good quality drawings		quality drawings	quality drawings			
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COPO Mapping Setup for Sem 3

CO-PO mapping for a course of “PG 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

COURSE CODE	BARC 302	CREDITS	3+1
COURSE NAME	Allied Design	SESSIONAL MARKS	100
FACULTY	George Jacob, Mansi Bhatt, Sagarika Suri, Saurabh Barde, Hussain Indorewala, Jai Bhadgaonkar	EXAM SCHEME	NA
CLASS DAY/TIME	Wednesday 8 to 11:20	NON-CLASS TIME	

PEDAGOGIC INTENT	The Third Semester Allied Design skill-lab introduces students with the techniques and processes of hand and machine crafting and transforming common materials. Through various exercises and projects, students tacitly acquire the skills of using tools and an understanding of the properties, constraints and possibilities of each of these materials. Students also learn how to achieve prescribed tolerances as well as fitting and assembly skills. The tasks require students to understand the relationship between shop drawings and manufactured parts, by learning how to produce objects by reading shop drawings as well as how to translate objects into technical drawings.
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COURSE METHODOLOGY	<p>Task 1: Warmup Exercise This Semester (Sem 3 Year 2022-23) will involve hand and machine work with wood. The first task will require students (individually) to read a shop drawing provided by the faculty, source the materials required for it, and make the object in the workshop (week 1&2).</p> <p>Task 2: Six Simple Machines The second task will require students to demonstrate the function of any one of the “six simple machines” through an object / assembly crafted in the workshop. Student groups (of 2-3) will be allotted one of the six machines by the faculty, and the the group will then prepare a shop drawing of their design (Week 3). The group will then produce their design by using the workshop (Week 4).</p> <p>Task 3: Design project: Wooden Toy The third task will require students to design a wooden toy for children (6-14 years) that may be loosely inspired by an existing toy (in mechanism only) but not by replicating it. The groups set up in Task 2 will continue for this exercise. The students will be allowed 1 week (Week 5) for research, and another 1 week (Week 6) for faculty feedback / modifications / rework. The group will be then expected to make prototypes of their design with suitable craft materials and demonstrate the function of the toy (Review Week 7). After this, the group will produce this design in the workshop in 3 weeks with intermittent discussions with faculty (Week 8-11). After a review (Week 12) the students will be expected to improve and finish their project, and translate the project into design drawings (Week 13-14).</p> <p>Final Review The final review will be in the form of a toy fair, where a group of children of the relevant age group will be invited to conduct a ‘jury.’ The jurors will rank the projects and the final grade will be based on the jurors’ choices.</p>
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	15/06/22	Semester 2 continues		
2	22/06/22	Semester 2 continues		
3	29/06/22	Semester 2 continues		
4	06/07/22	Introduction to ALD and Warmup Exercise		
5	13/07/22	Task 1: Review 1		
6	20/07/22	Task 1: Review 2 and Submission, while Task 2 is introduced		20
7	27/07/22	Task 2: Review 3		
8	03/08/22	Task 2: Review 4		10
9	10/08/22	Task 2: Review 5 and submission, while introduction to Task 3		10
10	17/08/22	Task 3: review 6		
11	24/08/22	Task 3: Cross Review 7		10
12	31/08/22	Ganesh Chaturthi Holiday		
13	07/09/22	Task 3: Cross Review 8 (Pre-final)		20
14	14/09/22	Task 3: Working Studio		
15	21/09/22	Task 3: Exhibition (Final)		20
16	28/09/22	Final Compilation and Condonation		10

LEARNING OUTCOMES	<p>1) Understanding the function and use of different hand and machine tools for processing and transforming materials.</p> <p>2) Developing the skill to use the workshop to achieve tasks as per prescribed dimensions and within prescribed tolerances</p> <p>3) Demonstrating the skills through a design project as per the parameters set in the studio, and then recording the project in the form of technical drawings</p>
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READING LIST/

REFERENCES

CO-PO mapped syllabi of B.Arch Course 2022-2023 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
Course Code: BARC 302

Sem: 3

Second Year

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: 2022 - 2023										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 3		Allied 3		302		100		100		3+1(extra)		1 October 2022							
Exercise: Title		Assemblies																	
Exercise Note / Task		<p>Task 1: Warmup Exercise This Semester (Sem 3 Year 2022-23) will involve hand and machine work with wood. The first task will require students (individually) to read a shop drawing provided by the faculty, source the materials required for it, and make the object in the workshop (week 1&2).</p> <p>Task 2: Six Simple Machines The second task will require students to demonstrate the function of any one of the "six simple machines" through an object / assembly crafted in the workshop. Student groups (of 2-3) will be allotted one of the six machines by the faculty, and the group will then prepare a shop drawing of their design (Week 3). The group will then produce their design by using the workshop (Week 4).</p> <p>Task 3: Design project: Wooden Toy The third task will require students to design a wooden toy for children (6-14 years) that may be loosely inspired by an existing toy (in mechanism only) but not by replicating it. The groups set up in Task 2 will continue for this exercise. The students will be allowed 1 week (Week 5) for research, and another 1 week (Week 6) for faculty feedback / modifications / rework. The group will be then expected to make prototypes of their design with suitable craft materials and demonstrate the function of the toy (Review Week 7). After this, the group will produce this design in the workshop in 3 weeks with intermittent discussions with faculty (Week 8-11). After a review (Week 12) the students will be expected to improve and finish their project, and translate the project into design drawings (Week 13-14).</p>																	
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 participative alongwith sharing responsibilities of studio assignments		85% to 90% attendance and visibly participative alongwith sharing responsibilities of assignments		75% to 85% attendance and participative alongwith sharing responsibilities of assignments only when asked		70% to 75% attendance and participative alongwith sharing responsibilities of assignments only when asked		65% to 70% attendance and less participative alongwith sharing responsibilities of 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		Fine accuracy in skill set involved to make the object and understanding the character and properties		Outstanding accuracy in making the object and understanding the character and properties of material but		Excellent accuracy and display of skill set involved in making the object. Excellent understanding of the character and		Good accuracy within limited skill set involved in making the object and intent displayed to understandi		Good accuracy within limited skill set involved in making the object and loose intent displayed to understandi		Fair accuracy within limited skill set involved in making the object and loose intent displayed to understandi		Need involvement and absolute improvement in skill set to make the object and loose intend displayed to		No involvement and absolute improvement required in skill set involved to make the object and no intend displayed to	

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	display of ingunity.	of the material. Having prospect of achieving perfection	having scope of evolving the overall skill set.	properties of the material. Scope of achiveing better result.	ng the character and properties of the material.	ng the character and properties of the material.	ng the character and properties of the material.	understandi ng the character and properties of the material.	understandi ng the character and properties of the material.
Conceptualization of the design	Novel idea, Functional Outcome, Finesse	Outstandi ng 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/Repro duced (Copied), Workable Outcome, Fair Make	Basic/repro duced idea (Copied), Workable Outcome, Fair Make	vague/repro duced 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 comparati ve originality matching the outline of the studio	Flexible with constraints as a design idea with comparativ e originality matching the outline of the studio	Flexible idea but exhibiting a continuatio n of an existing idea matching the outline of the studio	Good idea but exhibiting a continuatio n of an existing idea matching the outline of the studio	Average idea but exhibiting a continuatio n of an existing idea matching the outline of the studio	Fair idea but exhibiting a continuatio n of an existing idea matching the outline of the studio	Satisfactory idea but exhibiting a continuatio n of an existing idea barely matching the outline of the studio	No intent and inclination to develop an idea

COCO 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

COURSE CODE	BARC303	CREDITS	3 Lecture + 1 Studio
COURSE NAME	Architectural Building Construction and Materials 3	SESSIONAL MARKS	100
FACULTY	Vikram, Minal Dharmesh, Neeraj, Shantanu K, Kimaya, Ahana S	EXAM SCHEME	Theory- 50 marks
CLASS DAY/TIME	Monday 08.00-11:20/ Friday 1.20- 3.00	NON-CLASS TIME	12

PEDAGOGIC INTENT To make the students draw a comparative understanding of load bearing/ timber frame composite and RCC framed structures. The student is expected to visualise and represent a constructionally and structurally workable design of a residential scale in RCC and load-bearing composite structure.

COURSE METHODOLOGY Introduce and orient through lectures, Documentation of multiple building types and case studies and simulate exercises & resolve problems and designs.

Lecture

COURSE CODE	BARC303	CREDITS	3
COURSE NAME	Architectural Building Construction and Materials 3	SESSIONAL MARKS	
FACULTY	Vikram, Shantanu K	EXAM SCHEME	
CLASS DAY/TIME	Friday 1.20- 3.00	NON-CLASS TIME	12

WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	10/06/2022	Introduction to the Semester. Relation between Design and technology/ Construction.		
2	17/06/2022	An overview of the comparison between different structural systems with a focus on foundations		
3	24/06/2022	Compressive members and comparison between walls and columns.		
4	31/06/2022	Discussion on creating openings in walls		
5	07/07/2022	Flooring systems and factors affecting their use		
6	14/07/2022	Continuation of flooring systems		
7	21/07/2022	Introduction to RCC/ Framed Structures		
8	28/07/2022	Staircase and Ramp Systems		
9	04/08/2022	Roof Details		
10	11/08/2022	Roof Details in flat roof systems		
11	18/08/2022	Balconies		
12	25/08/2022	Waterproofing details		

Studio

COURSE CODE	BARC303	CREDITS	1
COURSE NAME	Architectural Building Construction and Materials 3	SESSIONAL MARKS	
FACULTY	Vikram, Minal Dharmesh, Neeraj, Shantanu K, Kimaya, Ahana S	EXAM SCHEME	
CLASS DAY/TIME	Monday 8.00- 11.20	NON-CLASS TIME	12

WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	06/06/2022	Introduction to Studio, formation of groups, allotment of sites		
2	13/06/2022	Working Studio		
3	20/06/2022	Working Studio		

4	27/06/2022	Working Studio		
5	04/07/2022	Working Studio	Sketches	10
6	11/07/2022	Working Studio	Plans and Sections	10
7	18/07/2022	Working Studio	Wall Sections	10
8	25/07/2022	Working Studio	Staircase	10
9	02/08/2022	Portfolio Submission (Prefinal)	Portfolio	20
10	09/08/2022	Working Studio		
11	16/08/2022	Holiday		
12	23/08/2022	Working Studio		
13	30/08/2022	Working Studio		
14	08/09/2022	Final Portfolio Submission	Final Documentation	40

LEARNING OUTCOMES

Empathy & Knowledge:- towards different constructional typologies; Skills of Observation, Documentation, Analysis & Representation of constructional processes in Architecture.

READING LIST/ REFERENCES

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.ChingBuildingConstructionIllustratedWiley20144>]Building Construction Handbook Seventh edition R. Chudley 5] Brick Work by Laurie Baker Download Link :<http://costford.com/Brick%20work.pdf> , 6

CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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:

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture										
Year of Assessment : 2022-2023	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	TL.C033	303	100	50	100	Multiple		
	Exercise: Title	Documentation of existing buildings								
	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 incorporating the minimum requirements	Arbitrary 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

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

COURSE CODE	304	CREDITS	3 (2 TOS + 1 Technology Studio)
COURSE NAME	Theory and Design of Structures	SESSIONAL MARKS	50
FACULTY	Bharghav and Dharmesh	EXAM SCHEME	NIL
CLASS DAY/TIME	11:00 - 12:30	NON-CLASS TIME	

PEDAGOGIC INTENT Understanding of basic theories and principles of structural analysis. S structural elements under various load load conditions

COURSE 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.

LEC T	DATE	TEACHING CONTENT
1	18.06.2022	Types of concrete
2	25.06.2022	RCC frame structure and reinforcement
3	02.07.2022	Basics of RCC, grades of concrete and steel. Introduction to concrete technology. Placement of steel based on bending moment and shear force diagrams
4	09.07.2022	Continuation to the previous week's topic
5	16.07.2022	Theory of simple bending, derivation of key formula and its explanations
6	23.07.2022	Continuation to the previous week's topic. Designing a Bicycle Stand with RCC as construction material. Working out the calculations(by thumb rules) for understanding the dimensions of the design and process of RCC construction
7	30.07.2022	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
8	06.08.2022	Understanding of Direct and Bending stresses in columns, footings and beams. Application of the same in design columns and walls.

9	13.08.2022	Explanation of axial stresses in beams and other structural members and analysis of deflections
10	20.08.2022	Introduction to deflections in beams with simply supported and cantilevers ends.
11	27.08.2022	Solving numerical problems for deflections in beams, with the methods stated above.
12	03.09.2022	Developing an Intuitive understanding howstructuresdeflectunderforces and behavior with respect to different structural elements.
13	10.09.2022	Discussion on Principal stresses and how it is derived for beams. Its significance in reinforcement layout.
14	17.09.2022	Study properties of materials like Cement, Sand and Bricks. Introduction to various conventional testing methods for the same.
15	24.09.2022	Revision

LEARNING OUTCOMES Theory of Simple Bending, Deflection in beams, Direct and bending stresses, Basics of RCC and Material Testing

READING LIST/ REFERENCES Strength of Materials by Rammruthum, Foundation Engineering by B.C. Punmia and P.C. Varghese

CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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: 2022-2023		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 Technology Studio)			
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 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 incorporating the minimum requirements	Arbitrary 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	Well curated outstanding analytical drawings and clarity in explaining the concept, architectural	Very well curated outstanding analytical drawings and clarity in explaining the concept,	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 and	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	Arbitrary and Adhoc Inquiry

	the tectonic articulation that allows for the identified architectural expression.	design intent and the tectonic articulation that allows for the identified architectural expression.	architectural design intent and the tectonic articulation that allows for the identified architectural expression.	architectural design intent and the tectonic articulation.	architectural design intent.	architectural design intent.	architectural design intent		
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

COPPO 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

COURSE CODE	BARC 305	CREDITS	3
COURSE NAME	HUMANITIES (2022-23)	SESSIONAL MARKS	50
FACULTY	Hussain, Shweta	EXAM SCHEME	
CLASS DAY / TIME	Thursday 9.40 pm	NON-CLASS TIME	-

COURSE DESCRIPTION	This course aims to provide a critical introduction to the political and intellectual currents, and socio-cultural norms and attitudes of 'modernity.' The aim of the course is to help students grasp the vocabulary of contemporary development discourse, by being able to trace their social historical origins, highlight their various structural elements, and identify the socio-political tendencies where used.
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PEDAGOGIC INTENT / LEARNING OBJECTIVES	<p>1) Students will be acquainted with the categories of political and social theory and consider current affairs through them</p> <p>2) Students will introduced to ideas that will help them frame contemporary socio-economic debates historically, discursively and comparatively.</p> <p>3) Students will be encouraged to engage with debates on social-justice, development policy, inequality, discrimination in their own contexts, and encouraged to develop their own perspectives.</p>
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COURSE METHODOLOGY	The course will be a weekly lecture and discussion seminar, of 2 hours per session. Each session will be organized in the form of structured discussions around a set of 'key words' and a readings provided for each session. Students will be asked to draft their own glossary of terms (in groups) during the course, through the readings and discussions.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS
1	16 th June	introduction: modernity, modernism, modernization	
2	23 rd June	Freedom, liberty, Democracy	
3	30 th June	Creativity, work, Alienation	
4	7 th July	Community, tradition, Identity	
5	14 th July	Exploitation, materialism, Class	
6	21 st July	Pluralism, diversity, Equality	
7	28 th July	Personal, Private, Property	
8	4 th Aug	Domination, power, Hegemony	
9	11 st Aug	Nation, state, Nationalism	
10	18 th Aug	Organic, ecology, Nature	
11	25 th Aug	Development, technology, Progress	
12	1 st Sept	Colonialism, imperialism, Orientalism	
13	8 th Sept	Concluding Seminar 1	
14	15 th Sept	Concluding Seminar 2	

EVALUATION CRITERIA	The main assignment will be building the glossary which will be graded at the end of the course. This will be given 75% of the weight. Class participation will be given 25% of the grade.
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – HUMANITIES SEM 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
Course Code: BARC305
Sem 3

Course Objectives:

- 1) Students will be acquainted with the categories of political and social theory and consider current affairs through them
- 2) Students will introduced to ideas that will help them frame contemporary socio-economic debates historically, discursively and comparatively.
- 3) Students will be encouraged to engage with debates on social-justice, development policy, inequality, discrimination in their own contexts, and encouraged to develop their own perspectives.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Students will be introduced to the vocabulary of social and political theory
CO2	Students will be able to frame contemporary socio-economic debates historically, discursively and comparatively.
CO3	Students will be able to develop their own perspectives on development policy, inequality, discrimination in their contexts

Rubrics:

Year of Assessment: 2022-23	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	BARC305		50	50				
Exercise: Title	Building Glossary of Terms								
Exercise Note / Task	Submit your glossary in an online format in groups								
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 Concepts	Excellent understanding of the concepts, ability to identify the roots of the idea and explain it lucidly, is able to connect the concept to contemporary examples	Very good understanding of the concepts, ability to identify the roots of the idea and explain it well, is able to connect the concept to contemporary examples	good understanding of the concepts, ability to identify the roots of the idea and explain it competently, and is able to connect the concept to examples	good understanding of the concepts, ability to identify the roots of the idea and explain it adequately, or is able to connect the concept to examples	fair understanding of the concepts, ability to identify the roots of the idea and explain it adequately	fair understanding of the concepts,	minimal understanding of the concepts,	Less than acceptable understanding of the concepts	Little or no understanding of the concepts
(B) Presentation Quality as a whole	Outstanding organization of the presentation, exceptionally clear presentation combined with creative use of writing	Exceptionally well structured, exceptionally clear presentation combined with creative use of writing	Well structured, exceptionally clear presentation combined with good use of writing	Very Clear presentation, combined with good use of writing	Well organized presentation, combined with competent use of writing	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% attendance or more, active participation in class and excellent conduct overall	90% attendance or more, good participation in class and very good conduct overall	80% - 90% attendance, active participation in class and excellent conduct overall	80% - 90% attendance, good participation in class and very good conduct overall	70% - 80% attendance, active participation in class and excellent conduct overall	70% - 80% attendance, good participation in class and very good conduct overall	50% - 70% attendance	50% - 70% attendance	50% attendance or less

CO-PO mapping									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Students will be introduced to the vocabulary of social and political theory	3	2	1	1	2	3	3	1
CO2	Students will be able to frame contemporary socio-economic debates historically, discursively and comparatively.	3	1	1	1	2	3	2	1
CO3	Students will be able to develop their own perspectives on development policy, inequality, discrimination in their contexts	3	1	0	1	3	3	3	2

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

COURSE CODE	EVS	CREDITS	
COURSE NAME	Environmental Studies III	SESSIONAL MARKS	100
FACULTY	Kimaya K, Minal Y	EXAM SCHEME	
CLASS DAY/TIME	Friday 2:40- 4:20	NON-CLASS TIME	2 hours

PEDAGOGIC INTENT	Course focuses 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.
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COURSE METHODOLOGY	Theory Lectures showcasing design projects and Discussions
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	17.06.22	Case studies – Site analysis and representation of Data		
2	24.06.22	Case studies – Site planning and Master Planning		
3	1.07.22	Site strategy and Implementation		
4	8.07.22	Site strategies for eco-sensitive sites		
5	15.07.22	Site strategies for Brownfield Site (Quarry)		
6	22.07.22	Restoration and Rejuvenation methods for brown field sites		
7	29.07.22	Case Studies – Climate responsive Design		
8	5.8.22	Case Studies - Façade Development		
9	12.08.22	Case Studies - Biomimicry		
10	19.08.22	Case Studies – Energy Efficient building systems and Materiality		
11	26.08.22	Case Studies – Energy Efficient building systems and Materiality		
12	02.09.22	Architectural Representation for Environmental systems		

LEARNING OUTCOMES	Knowledge and understanding of Environmental systems to be incorporated with their architectural design project
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READING LIST/ REFERENCES	1 Handbook on Energy conscious buildings, 2 Environmental planning Anne Beer, 3 Skyscrapers, KenYeang, 4 Ecological Architecture, 5 Soleri, 6 Energy Efficient buildings, 7 Environments, Technology and sustainibility and Design with Nature, 9 Sustainable 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 Pfamnter
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CO-PO mapped syllabi of B.Arch Course 2021-2022 – 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 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: Environmental Studies 3

Course Code: BARC 306

Sem 3

Year 21-22

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 emphasize 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.

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 understand and 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 the climatic variables, followed by a resolution of the building keeping in view a strong climate response.

Rubrics:

Year of Assessment : 2022-2023	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	Subject:	Subject code	Sessional Marks:	Exercise of 01: Marks out	Credits :	Date of submission	Upgrade 01	Upgrade 02	
FIFTH YEAR-SEM10	EVS	BARC 1006	100	100	3: 2EVS+1ARD	08.07.2022			
Exercise: Title	Case Study presentation								
Exercise Note / Task	Case Study presentations on environment sensitive architectural projects								
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 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 incorporating the minimum requirements	Arbitrary and Adhoc Inquiry

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 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 on 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
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

COPPO Mapping Setup for Sem 10

CO-PO mapping for a course of “PG program”									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To identify the area of 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 understand and 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 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

CO-PO mapped syllabi of B.Arch Course 22-23 – 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)

COURSE CODE	ABS-3	CREDITS	
COURSE NAME	Architectural Building Services	SESSIONAL MARKS	Internal sessional marks - 50
FACULTY	Minal Yerramshetty, Ahana Sarkar	EXAM SCHEME	50 marks external exam paper
CLASS DAY/TIME	Tuesday - 1.20-3.00	NON-CLASS TIME	4 hours

PEDAGOGIC INTENT	The intent of the course is to enable inherent understanding of these parameters and encompassing it intuitively in the design process. COMFORT - water system at city level -that deals with various sources of water city can attain, its distribution system, losses and tariffs. The second part of system is water system within a building premise - its storage, calculations as per norms, its various distribution methods, and fittings to control the system. The third part of water system deals with advance water systems used in high rises. HYGIENE - Sanitation and Solid Waste Management are the two topics introduced under this concept. The design of buildings and the integration of sanitation system in terms of layout of public toilets, understanding of system's principle, ventilation and maintenance issues, and finally the site planning regarding water and sanitation layouts so that health and hygiene is maintained at minimal cost. EFFICIENCY - Building Services are active system of the building and are great energy as well as resource guzzlers. The alternate methods of waste removal from site, recovery of waste and water from the waste water generated from the site and its treatment and efficiently turning the systems as an integrated approach to landscape and site planning.
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COURSE METHODOLOGY	Theory lectures with the help of audio-visual medium, case studies and discussion and debates
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	14/06/2022	Study trip	--	
2	21/06/2022	Study trip	--	
3	28/06/2022		--	
4	05/07/2022	What are architectural services? Comparison of Building systems with Human systems and understanding its integrity with Design	--	
5	12/07/2022	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	--	
	19/07/2022	Water supply at city level, sources - both surface as well as ground, briefly method of filtration and distribution. Changes at city level - requirement changes and supply changes, tariffs and losses and its implication on planning.		
	26/07/2022	Water supply at building level - connections from the mains to service pipes, components in the entire system, distribution within the building.....		
6	2/08/22	Tanks, their construction and their capacities and sizes calculations based on number of residents, water supply at a home level,	--	
7	9/08/22	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)	--	
8	16/08/22	HOLIDAY - PARSİ NEW YEAR	--	
9	23/08/22	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.....	--	
	30/08/22	Use of materials, signages, light/ventilation/maintenance aspect, fixtures and fitting, innovative water saving devices used in PT, ergonomics, and design for disabled		
10	6/09/22	Sanitation - house drainage, traps, systems, principles of drainage system, anti siphon and ventilation of system	--	
11	13/09/22	Sanitation - continues	--	
07	20/09/22	Environmental friendly systems such as septic tank, DEWAT, Ecosan toilet, dry toilets, urine seperating toilets. Water management system, water saving techniques.	--	
13	27/09/22	QUIZ/TEST	--	
14	4/10/22	CONDONATION/FINAL SUBMISSION/EXAM TIME COMMENCES	--	

LEARNING OUTCOMES	The students would be able to design buildings with fire safety norms. The intent is to help students to internalize the safety and mobility concepts in the building including the understanding and incorporating state as well as national byelaws for safety.
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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: 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: 2022-2023	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	Understanding toilet design and its critique through detailed drawing of their home									
Exercise Note/task	Detailed drawing of toilet showcasing all three systems - structural, services and constructional systems with material specification									
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	
	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	0	1	3	2
CO3	To be able to explore and investigate the integration of building infrastructure, material and structural components.	1	0	1	0	0	0	2	2
CO4	To be able to apprehend how building services and infrastructure informs the architectural design.	2	1	1	0	0	0	2	2

COURSE CODE	309	CREDITS	2
COURSE NAME	Architectural Theory 1	SESSIONAL MARKS	50
FACULTY	Rohan Shivkumar, Ginella George	EXAM SCHEME	NIL
CLASS DAY/TIME	Thursday / 1.20-3.00 pm	NON-CLASS TIME	-

PEDAGOGIC INTENT	The Theory of Design Course seeks to provide a space to enable the students with critical thinking skills across the five years of architecture school. It provides a space for the student to consider the relationship between the 'self' and the frameworks through which it is constructed, and the choices made with respect to design.
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COURSE METHODOLOGY	Architecture will be the primary discipline that will be looked at in this course. The objects will be placed in conceptual, cultural and historical context through other references that may come from literature, visual art or film. Relevant readings will also be interspersed through the course.
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LECT	DATE	TEACHING CONTENT
1	16.06.2022	What is Theory?
2	23.06.2022	Theory/ Frameworks of Analysis
3	30.06.2022	Modern
4	07.07.2022	Colonial Modern
5	14.07.2022	Bengal Renaissance: Santiniketan
6	21.07.2022	Bengal Renaissance: Aurobindo
7	28.07.2022	Industrial Utopias
8	04.08.2022	Fin de Siecle- Paris
9	11.08.2022	Fin de Siecle- Vienna
10	18.08.2022	Frank Lloyd Wright
11	25.08.2022	The Chicago Skyscraper
12	01.09.2022	<i>Ganesh Utsav Holiday</i>
13	08.09.2022	Dutch Avant Garde
14	15.09.2022	The Will to Soar
15	22.09.2022	Assignment Submission

LEARNING OUTCOMES	1. To critically analyse and take a position with respect to acts of design 2. To engage with the ideas and concepts that have shaped architectural thinking.
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READING LIST/ REFERENCES	1. Ching, Francis. Architecture - Form, space and order, John Wiley & Sons; (2007) 2. Alexander, Christopher et al. A Pattern Language: Towns, Buildings, Construction, Oxford University Press (1977) 3. Pallasmaa, Juhani. The Eyes of the Skin: Architecture and the Senses, Wiley; (2012p) 4. Fritzsche, Peter. Nietzsche and the Death of God: Selected Writings, Waveland Press (2013) 5. Jacob, Swinton. Jeypore Portfolio of Architectural Details, Studio Orientalia
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ASSIGNMENT	Analyse the given building for its form and meaning. Please use drawings and text in the assignment. You could emphasise the concepts and their expressions through elements, diagram, layout and/or volume.
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CO-PO mapped syllabi of B.Arch Course 2022-2023– 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 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 delay 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: 2022-2023	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 01 & 02: Marks out of	Credits	Date of submission			
SECOND YEAR - SEM 3	Arch Theory 1	BARC 309	50	50	2				
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

COURSE CODE	320	CREDITS	3
COURSE NAME	College Projects 3(Tectonic Studies +History)	SESSIONAL MARKS	100
FACULTY	Ginella George, Rutika Parulkar Jamshid Bhiwandiwala, Aishwarya Padmanabhan	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 1.20 – 3.00pm THURSDAY, 8:00am to 9:40 am	NON-CLASS TIME	-

Course 1

COURSE CODE	320 (TTS022)	CREDITS	2
COURSE NAME	Tectonic Studies (College Projects 3)	SESSIONAL MARKS	50
FACULTY	Ginella George, Rutika Parulkar	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 1.20 – 3.00pm	NON-CLASS TIME	-

PEDAGOGIC INTENT	The Tectonics Studies is imagined to be a series of lectures and activities exploring Architecture and its making. The course is structured across four semesters through a series of sixty-four words highlighting the processes in the making of Architecture. The course reveals the close proximity or influences between theory and technology, experience and built environments.
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COURSE METHODOLOGY	Tectonic Studies in Semester 3 and 4 is structured around the aspect of 'Self and Experience'. The experiences the body undergoes in spatial conditions are pre-determined in the initial stages of design thinking. The projects are curated to help realise the various architectural elements and material choices that are employed to accentuate experiences in space through light, sound, texture, colour, etc.
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LECT	DATE	TEACHING CONTENT
week 0	13.06.2022	SEM 2 studio
week 0	20.06.2022	SEM 2 exams
Week 0	27.06.2022	Elective week
1	04.07.2022	Introduction to the course – Technique. Technology, Tectonics
2	11.07.2022	Building Dwelling Being
3	18.07.2022	Building Dwelling Being
4	25.07.2022	Element 1: Light
5	01.08.2022	Element 2: Scale
6	08.08.2022	Element 3: Material
7	15.08.2022	<i>Independence day Holiday</i>
8	22.08.2022	Element 4: Form
9	05.09.2022	Element 5: Detail
10	12.09.2022	Element 6: Construct
11	19.09.2022	Element 7: Meaning
12	26.09.2022	Element 8: Movement

LEARNING OUTCOMES	The Tectonics Studies lecture series will allow the students to learn to explore Architecture, Design and the larger landscape through a critical lens, with a dissection of projects through various layers as a tool of studying, understanding and celebrating Architecture.
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Course 2 - History

COURSE CODE	BARC 305/ 320	CREDITS	2 (1 CP + 1 Humanities)
COURSE NAME	Humanities (History) + College Projects 3 (History)	SESSIONAL MARKS	25 + 25
FACULTY	Jamshid Bhiwandiwala, Aishwarya Padmanabhan	EXAM SCHEME	Internal (50)
CLASS DAY/TIME	THURSDAY, 8:00am to 9:40 am	NON-CLASS TIME	3

PEDAGOGIC INTENT	Cities represent the collective and have been at the heart of civilization. Most renowned cities have exhibited their versatility through their cultural traits and institutions or through the economic trade they have been able to sustain from all adversities. From river affronted historic cities to those classical towns with the high ground Agora, all of these have unique characteristics and patterns to learn from. Medieval towns both in Europe and India have displayed fortifications and mighty gateways to assure the trading classes of their security whereas later cities planned central avenues and boulevards through which their armies could march across more or less representing the same. However, cities are celebrated for the culture they exhibit through the people, their lifestyle represented by the public and social institutions they have built. Most renowned towns have also undergone disasters once in a while however it has been the cultural and economic resilience of the collective that has brought about its revival and most of them have sustained till date.
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COURSE METHOD	A method adopted to understand cities in a comparative manner in the given era/ timeline is important to gather the achievements at various parts of the globe during those times through lectures, viewing documentaries and critical reading.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
Week 1	07/07/2022	Introduction to the course - The Architecture of Power and the emergence of cities		
Week 2	14/07/2022	Neolithic period – Clans, Chiefdoms and settlements – Catal Hayouk and Jericho		
Week 3	21/07/2022	Networking Early River-Dependent Cities - <i>Recognising Spatial patterns in the Indus Valley Civilization - cities of Mohenjodaro, Harappa, Dholavira and Lothal</i>		
Week 4	28/07/2022	Kingship, cosmos, and politics - <i>Comparing the context of ancient Egyptian and the Mesopotamian civilization</i>		
Week 5	04/08/2022	Ritualized Kingship - <i>Understanding the methods of</i>		

CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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)

		<i>legitimizing kingship in early Chinese civilizations</i>
Week 6	11/08/2022	Custom as Law - From the Vedic period to Buddhism – following trajectories of the Pre-Gupta era
Week 7	18/08/2022	The image and its corporeality Of Divinity : Of Royalty - Temples Architecture of India
Week 8	25/08/2022	North Indian river towns like Varanasi and Ujjain
Week 9	01/09/2022	Holiday
Week 10	08/09/2022	The image and its corporeality Of Divinity : Of Royalty – Temple Towns of India
Week 11	15/09/2022	Myth, Mythology and the shaping of peer city-states – Ancient Greece
Week 12	22/09/2022	From Brick to Marble; "From a kingdom of gold to one of iron and rust" - Tracing the journey of Ancient Rome to the fall of the Roman Empire
Week 13	29/09/2022	From Brick to Marble; "From a kingdom of gold to one of iron and rust" - Tracing the journey of Ancient Rome to the fall of the Roman Empire
Week 1	07/07/2022	From Brick to Marble; "From a kingdom of gold to one of iron and rust" - Tracing the journey of Ancient Rome to the fall of the Roman Empire

LEARNING OUTCOMES	Understanding of characteristic features of both historic, planned and evolved towns are brought to the fore along with the influences that shape them. Assignments in recording the traits of these towns through morphological drawings and influences that shaped them through innovative representation.
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READING LIST/ REFERENCES	Global History of Architecture by Ching, Jarzombek, Prakash, History of Architecture in India by Christopher Tadgell
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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

Course: Tectonics Studies
Course Code: BARC 320

Sem 3

Second Year

Course Objectives:

- To understand architectural form through its tectonic and physical aspects.
- To analyse an architectural object.

Course 2

Course: History
Course Code: BARC 320

Sem 3

Second Year

Course Objectives:

- To create frameworks to enable the student to deal with the shifting scales in the historiography of the historical object
- To understand the constellation of ideas discussed in the earlier semesters to trace and write the history of a built object.
- To understand and analyze the built object through various thoughts and responses.

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
CO4	Understanding the making of an architectural object through details, material and structure
CO5	Analysing the expression of an architectural object

Rubrics 21(Tectonics):

Year of Assessment: 2022-2023	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 01: Marks out of	Credits	Date of submission			
SECOND YEAR - SEM 3	College Projects 3 (Tectonics)	BARC 320	50	50	2CP	26.09.2022			
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	O++	O+	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 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: History

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
Year of Assessment: 2022 - 2023									
Year & Sem	Subject:	University Subject Code	Sessional Marks: max 100		Exercise: Marks out of	Credits	Date of submission		
SECOND YEAR - SEM 3	College Projects 3 (History)	BARC 320	50		50	2CP + 1HU			
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	1	1	3	2	2	3	3	3	
CO2	Analysing historical ideas and their implications on architectural form	1	2	0	1	0	3	3	1	
CO3	Adopting the modes of production as a chronological system to discuss the ideas that lead to a production of architecture	0	2	0	0	0	1	1	0	
CO4	Understanding the making of an architectural object through details, material and structure	3	3	3	1	0	3	3	2	
CO5	Analysing the expression of an architectural object	3	3	3	2	1	3	3	3	

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

Semester 4

Scheme of Teaching and Examinations

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

Sub No.	Semester IV Exam conducted by individual colleges SUBJECTS	Teaching Scheme		Credits		
		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

Sub. No.	Semester IV Exam Exam conducted by individual colleges SUBJECTS	Examination Scheme			
		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	Tectonic Studies	Architectural Design Studio	Allied Design Studio	Technology Studio	Architectural Design Studio	Theory of Structures		
	407 2CP	401 4AD	402/420 4(3ALD+1ARD)	403/404/40840 7/420 7 (ABC studio 1 + ABC lecture 1 + TOS 1+ ABS 1 + ARD 3)	401 4AD	404 2TOS		
8.50 - 9.40	Rutika Ginella Mamta	Apurva P Adwait A Ankush C Ginella G Nikhil K Kunal S Rutika P Mayur G	Hussain George Sagarika Saurabh B Aahana S Jay B	Vikram Dharmesh Bhawin Minal Neeraj Kimaya Ahana	Apurva P Adwait A Ankush C Ginella G Nikhil K Kunal S Rutika P Mayur G	Dilraj gav Dharmesh Iyashree		
9.40 - 10.30	Technology Lecture 2 (ABS)							
	408 2 of 3 ABS							
10.30 - 11.20	Minal, Ahana							
11.20 - 12.00	B R E A K							
12.00-12.50			Encounter	Tech Studio (contd.)	ENCOUNTERS			
12.50 - 1.20	L U N C H B R E A K							
1.20 - 2.10	History Lecture	Architectural Theory	Technology Lecture 1 (ABC)	Technology Studio	Humanities			
	405/420 1HUM+1CP	409 2 AT	403 403	Vikram, Minal Dharmesh, Kimaya Ahana, Anubhav	405 3HUM			
2.10 - 3.00	Aishwarya, Rutika, Sanaeya	Rohan Ginella, Ahana	Vikram Shantanu K		Hussain Shweta Karan			

COURSE CODE	401	CREDITS	8
COURSE NAME	Tectonic Studies (College Projects 3)	SESSIONAL MARKS	100
FACULTY	Ankush C , Ginella .G , Adwait A, Apurva Parikh , Rutika P, Kunal S, Mayur G , Nikhil K	EXAM SCHEME	External - 100
CLASS DAY/TIME	200 mins Tuesday and Friday – 8.00to11.20 am	NON-CLASS TIME	-

PEDAGOGIC INTENT	<p>The fourth semester Architectural Design studio (for the next 3 years) is built around the idea of exploring the relationship of power and its manifestation in architecture and the city. An effective way of studying this relationship is to study situations where a shift of power has occurred and observe the way architecture responds to this change. The Sem 4 studio aims to use the material produced from the act of excavating the palimpsest of cities in princely states, to speculate the future of these cities. The effect of the imagined transformations can also be speculated with the help of the layer-vector relationships drawn from the study trip.</p> <p>The studio sites will be situated in Alwar , which would be documented in study trip. The project is seen as a response to the selected site/context . The project could be treated as urban insert with a pre decided program and the students would develop the project with formal responses to the context with emphasis on tectonics , materiality and spatial details</p>
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COURSE METHODOLOGY	<p>The primary tool for recording this act of excavation is the drawing. We make drawings to observe, to record, to analyze, to design, to organize, to resolve and to build. The drawings produced on site and in the studio thereafter, will be the base for the course for Sem 4. With identifying the sites students will be given programs and will have to develop tier design intervention with rigorous formal processes.</p> <p>The idea of material tectonics and details would form an integral part of the design process. The Proposed urban insert will be developed by drawing relations between the older existing programs and the proposed ones .</p> <p>Students will also have to develop their position in response to the context through their own understanding of forms, meanings and the everyday life in Alwar.</p>
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14	10.01.2023	Desk Crits
15	13.01.2023	Desk Crits
16	17.01.2023	Desk Crits
17	20.01.2023	Desk Crits
18	24.01.2023	Desk Crits
19	27.01.2023	Formulating plans - first cut
20	31.01.2023	Reworking on plans sections
21	3.02.2023	Reworking on plans sections
22	7.02.2023	Desk Crits
23	10.02.2023	Desk Crits
24	14.02.2023	Midterm Jury
25	17.02.2023	Electives
26	21.02.2023	Electives
27	24.02.2023	KRMLS
28	28.02.2023	Desk crits
29	3.03.2023	Desk crits
30	7.03.2023	Desk crits
31	10.03.2023	Desk crits
32	14.03.2023	Desk crits
33	17.03.2023	Desk crits
34	21.03.2023	Pre final jury
35	24.03.2023	Working on Final Presentation
36	28.03.2023	Working on Final Presentation
37	31.03.2023	Final submission

LEARNING OUTCOMES	<p>Understanding the impact of the shifts in power on neighborhoods, institutions and communities .</p> <p>The idea of forms , their meanings , functions and everyday life in the urban.</p>
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LECT	DATE	TEACHING CONTENT
1	25.11.2022	STUDY TRIP WORK
2	29.11.2022	STUDY TRIP WORK
3	2.12.2022	Introduction to studio
4	6.12.2022	Site analysis and site study
5	9.12.2022	Site study presentations
6	13.12.2022	Final presentation of Models
7	16.12.2022	Concept Development desk crit
8	20.12.2022	Desk crit
9	23.12.2022	Concept jury
10	27.12.2022	Christmas Break
11	30.12.2022	Christmas Break
12	3.01.2023	Working on formal ideas + Desk Crits
13	6.01.2023	Desk Crits

CO-PO mapped syllabi of B.Arch. Course 2021-2022 – 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 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 de-layer 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 : 2022-2023	USM's Kamla Raheja Vidyaniidhi 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	31/03/2023			
Exercise: Title	Design Project - Shift of Power and Spaces for the Collective								
Exercise Note / Task	<p>The fourth semester Architectural Design studio (for the next 3 years) is built around the idea of exploring the relationship of power and its manifestation in architecture and the city. An effective way of studying this relationship is to study situations where a shift of power has occurred and observe the way architecture responds to this change. The Sem 4 studio aims to use the material produced from the act of excavating the palimpsest of cities in princely states, to speculate the future of these cities. The effect of the imagined transformations can also be speculated with the help of the layer-vector relationships drawn from the study trip.</p> <p>The studio sites will be situated in Alwar , which would be documented in study trip. The project is seen as a response to the selected site/context . The project could be treated as urban insert with a pre decided program and the students would develop the project with formal responses to the context with emphasis on tectonics , materiality and spatial details</p>								
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 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 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 work	Extremely involved in taking lead and completing the group work with extraordinarily innovative drawings	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 drawings	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 "PG 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

COURSE CODE	BARC 402	CREDITS	3+1
COURSE NAME	Allied Design Studio 4	SESSIONAL MARKS	100
FACULTY	Ahana Sarkar, George Jacob, Hussain Indorewala, Jai Bhadgaonkar, Sagarika Suri, Saurabh Barde	EXAM SCHEME	Internal
CLASS DAY/TIME	Wednesday / 8:00 to 11:20	NON-CLASS TIME	3 hrs / week

PEDAGOGIC INTENT

Allied Design in this semester introduces students to new working methodologies and exposure to techniques that will help build objects for scales larger than the earlier semester. The project will prepare furniture for the institute, essential for its everyday requirements. Through a curated process detailed in the course methodology the students will be trained to apprehend the functionality and expression of the design that is meant to cater the desired goals. Students will develop or reproduce joinery and assembly details as per design needs. This semester's exercise will highlight the relationship between the demonstrated prototype, shop drawings and actual manufacturing of the set.

COURSE METHODOLOGY

The batch will be divided into two sets of furniture requirement, one that will prototype Pin-up panel system that is flexible and portable and the other set will be designing multipurpose tables. Each set will consist of smaller groups of 4 students, with the intent to achieve design diversity in the studio.

The exercise is curated into three stages beginning with the conceptualization of the design using working models and sketches. This will be followed by scaled-up model of the finalized design along with joinery details as drawings and actual scale demonstration. The third stage will be the compilation of the shop drawings with complete set of information for the fabricator / carpenter to build it to the actual scale. It is imperative at the third stage student groups will also prepare the specification and estimation of their proposal.

WEEK	DATE	TEACHING CONTENT
1	30/11/22	Introduction to the studio, student groups and First Stage
2	07/12/22	First Stage: Guide Group discussions
3	14/12/22	First Stage: Guide Group discussions
4	21/12/22	First Stage: Guide Group discussions
5	04/01/23	Review of first Stage, introduction to second stage
6	11/01/23	Second Stage: Guide Group discussions
7	18/01/23	Second Stage: Guide Group discussions
8	25/01/23	Second Stage: Guide Group discussions

9	01/02/23	Second Stage: Guide Group discussions
10	08/02/23	Review of second Stage, introduction to third stage
11	15/02/23	Third Stage: Guide Group discussions
12	22/02/23	Third Stage: Guide Group discussions
13	01/03/23	Third Stage: Guide Group discussions
14	08/03/23	Third Stage: Guide Group discussions
15	15/03/23	Review of third stage and putting up defaulters list
16	22/03/23	Condonation review
17	29/03/23	Final book submission
18		
19		

LEARNING OUTCOMES

- 1) Understanding the shift in scale and the accuracy to be achieved to build a successful prototypical design.
- 2) Developing joineries and specific design process with suitable deliverables.
- 3) Developing technical drawings to ease prototyping, with clear communicable representation of the design and compiling the set as a submission

**READING LIST/
REFERENCES**

CO-PO mapped syllabi of B.Arch Course 2022-2023 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: 2022 - 2023		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 (Extra)	1 April 2023			
Exercise: Title	Designing Space with objects								
Exercise Note / Task	The batch will be divided into two sets of furniture requirement, one that will prototype Pin-up panel system that is flexible and portable and the other set will be designing multipurpose tables. Each set will consist of smaller groups of 4 students, with the intent to achieve design diversity in the studio.								
	The exercise is curated into three stages beginning with the conceptualization of the design using working models and sketches. This will be followed by scaled-up model of the finalized design alongwith joinery details as drawings and actual scale demonstration. The third stage will be the compilation of the shop drawings with complete set of information for the fabricator / carpenter to build it to the actual scale. It is imperative at the third stage student groups will also prepare the specification and estimation of their proposal.								
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	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 achieving 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 involvement and absolute improvement in skill set to make the object and loose intent displayed to understanding the character and properties of the material.	No involvement and absolute improvement required in skill set involved to make the object and no intent displayed to understanding the character and properties of the material.

		achieving perfection.							
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

COCO 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

COURSE CODE	BARC403	CREDITS	2 Lectures + 1 Studio + 1 Allied Design
COURSE NAME	Architectural Building Construction and Materials 4	SESSIONAL MARKS	100
FACULTY	Vikram, Neeraj, Dharmesh, Minal, Kimaya, Bhavin, Ahana, Shantanu K	EXAM SCHEME	Theory- 50 marks
CLASS DAY/TIME	Thursday 08.00- 03:00/ Wednesday 1.20-3.00	NON-CLASS TIME	12

PEDAGOGIC INTENT	To impart documentation skills through observation. To equip learners with the ability to apply learnings from observations to design
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COURSE METHODOLOGY	Lectures Documentation and analysis exercises Studio for application of learnings into design
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Lecture

COURSE CODE	BARC403	CREDITS	2
COURSE NAME	Architectural Building Construction and Materials 4	SESSIONAL MARKS	
FACULTY	Vikram, Shantanu K	EXAM SCHEME	
CLASS DAY/TIME	Wednesday 1.20-3.00	NON-CLASS TIME	12

WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	23/11/2022	Comparison between sloping and flat roof		
2	30/11/2022	RCC as a building material		
3	07/12/2022	Reinforcement details in columns and beams		
4	14/12/2022	Roofing and flooring in steel and RCC		
5	21/12/2022	Staircase design and details		
6	04/01/2023	Staircase design and details		
7	11/01/2023	Fabrication of structural members in steel		
8	18/01/2023	Steel joinery methods		
9	25/01/2023	Joinery details in steel		
10	01/02/2023	Joinery details in steel		
11	08/02/2023	Waterproofing in steel		
12	15/02/2023	Fireproofing in steel		

Studio

COURSE CODE	BARC403	CREDITS	1
COURSE NAME	Architectural Building Construction and Materials 4	SESSIONAL MARKS	
FACULTY	Vikram, Neeraj, Dharmesh, Minal, Kimaya, Bhavin, Ahana,	EXAM SCHEME	
CLASS DAY/TIME	Thursday 08.00- 3:00	NON-CLASS TIME	12

WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	24/11/2022	Review of Wall Sections		
2	01/12/2022	Review of Connected Wall Sections		
3	08/12/2022	Design Development 1		
4	15/12/2022	Design Development 2		

5	22/12/2022	Design Development 3		
6	05/01/2023	Resolution Studio 1	Plans and Sections	10
7	12/01/2023	Resolution Studio 2	Structural Design	10
8	19/01/2023	Site Visit (RCC Casting)		10
9	26/01/2023	Holiday		
10	02/02/2023	Resolution Studio 3	Site visit learnings application to design	10
11	09/02/2023	Resolution Studio Final Grading	Final drawings	10
12	16/02/2023	Construction Test	Class test	50

LEARNING OUTCOMES	Skills of the documentation process through observations, surveying, measured drawings, sketches and documentation photography oriented towards drawing and representation of the construction components
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READING LIST/ REFERENCES	Barry; Introduction & Advanced Construction; Chudley; Mitchel; Ching;
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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:

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture										
Year of Assessment : 2022-2023	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	Integrated Design Studio: Using the learnings from Sem 3								
	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 incorporating the minimum requirements	Arbitrary 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

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

COURSE CODE	404	CREDITS	3 (2 TOS + 1 Technology Studio)
COURSE NAME	Theory and Design of Structures	SESSIONAL MARKS	50
FACULTY	Bharghav and Jayashree	EXAM SCHEME	NIL
CLASS DAY/TIME	8:00 - 11:30 (Saturday)	NON-CLASS TIME	

PEDAGOGIC INTENT Understanding of basic theories and principles of structural analysis. S structural elements under various load load conditions

COURSE 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.

LEC T	DATE	TEACHING CONTENT
1	26.11.2022	1 Introduction to the course this semester. How columns fail? What is the most governing design factor? Pipes of different heights will be used to explain slenderness ratio.
2	03.12.2022	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. Slenderness ratio.
3	10.12.2022	Numericals based on previous topic. 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.
4	17.12.2022	Column failures and understanding of Euler's and Rankine's theory and numerical exercises.
5	24.12.2022	Introduction to indeterminant structures
6	07.01.2023	Introduction to indeterminant structures
7	14.01.2023	Determination of positive and negative bending moments with different loading patterns. Wooden beam workshop to understand support reactions/conditions and fixity.
8	21.01.2023	Solving numerical to reinforce concept of fixed end moments

9	28.01.2023	Introduction to Engineers/designers who created highly engineered structures throughout history. Dividing groups
10	04.02.2023	Online Test
11	18.02.2023	Study properties of materials like Coarse Aggregate, Concrete and Mangalore Tiles. Introduction to various conventional testing methods for the same.
12	04.03.203	Study properties of materials like Coarse Aggregate, Concrete and Mangalore Tiles. Introduction to various conventional testing methods for the same.
13	11.03.2023	Revision

LEARNING OUTCOMES Theory of Simple Bending, Deflection in beams, Direct and bending stresses, Basics of RCC and Material Testing

READING LIST/ REFERENCE S Strength of Materials by Rammruthum, Foundation Engineering by B.C. Punmia and P.C. Varghese

CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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: 2022-2023	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 Technology Studio)			
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	Very well curated outstanding analytical drawings and clarity in explaining the concept and architectural	Excellent curation using outstanding analytical drawings and clarity in explaining the concept and architectural	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural	Good curation using outstanding analytical drawings and clarity in explaining the concept and architectural	Fair curation using outstanding analytical drawings and clarity in explaining the concept and architectural	Basic level of inquiry incorporating the minimum requirements	Arbitrary and Adhoc Inquiry

		1 design intent	1 design intent	1 design intent	1 design intent	1 design intent	1 design intent		
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 incorporating the minimum requirements	Arbitrary 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

COCO 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

COURSE CODE	BARC 405	CREDITS	3
COURSE NAME	HUMANITIES (2022-23)	SESSIONAL MARKS	50
FACULTY	Hussain, Shweta	EXAM SCHEME	THEORY PAPER 50 MARKS
CLASS DAY / TIME	Friday 1.30 pm	NON-CLASS TIME	-

COURSE DESCRIPTION	This course aims to provide an introduction to a cultural-urbanist perspective on cities, one that explores the interface between cities and cultures. The term 'culture' will be used in this course not in the specific sense of the arts or artistic activity (music, painting, theatre, film, etc) nor in the all encompassing general usage of 'a whole way of life' - but in the sense of the relations between material and symbolic production. The course will be structured along themes rather than disciplines
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PEDAGOGIC INTENT / LEARNING OBJECTIVES	<p>1) Students will be acquainted with some key readings that outlines a cultural urbanism perspective drawing on materials from disciplines such as urban sociology, social anthropology, urban studies and urban theory</p> <p>2) Students will learn to examine contemporary urban processes and debates through a cultural theory framework.</p> <p>3) Through the various themes, students will engage with texts and visual materials that will touch upon topics such as habits of consumption, design of habitations, normative and deviant norms and values, ideology and intellectual traditions, ideas and interests, among others.</p>
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COURSE METHODOLOGY	The course will be a weekly lecture and discussion seminar, of 2 hours per session. Each theme (module) will be explored in sets of three sessions, and organized in the form of structured discussions, with a key text and other visual materials.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS
1	11 th Nov	Introduction	
2	18 th Nov	Production Of Space	
3	25 th Nov	Politics Of Urban Desire	
4	2 nd Dec	Space Place And Gender	
5	9 th Dec	Hetrotopia Dalits Citizenship And Urban Space	
6	16 th Dec	Politics Of Difference	
7	23 rd Dec	Reinterpreting Local Culture	
8	6 th Jan	The Culture Industry Reconsidered	
9	13 th Jan	Difference, Boundaries, Community	
10	20 th Jan	Ideology And Utopia	
11	27 th Jan	Evil Paradises	
12	3 rd Feb	See You In Disneyland	
13	10 th Feb	Concluding Seminar 1	
14	17 th Feb	Concluding Seminar 2	

EVALUATION CRITERIA	The main assignment will be in the form of a short 'case study' selected by a group of 4 students, analyzed through the ideas introduced in the course. This assignment will be given 75% of the weight. Class participation will be given 25% of the grade.
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – HUMANITIES SEM 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
Course Code: BARC405
Sem 4

Course Objectives:

- 1) Students will be acquainted to a cultural urbanism perspective - drawing on materials from disciplines such as urban sociology, social anthropology, urban studies and urban theory
- 2) Students will learn to examine contemporary urban processes and debates through a cultural theory framework.
- 3) Students will be encouraged to read their own city from the themes introduced in the course

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Students will acquire a conceptual vocabulary of cultural urbanism
CO2	Students will learn to examine contemporary urban processes and debates through a cultural theory framework.
CO3	Students will be encouraged to read their own city from the themes introduced in the course

Rubrics:

Year of Assessment: 2022-23	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 4	Hum	BARC405		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 minimal understanding of the case, somewhat able to identify determinants	An minimal 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% attendance or more, active participation in class and excellent conduct overall	90% attendance or more, good participation in class and very good conduct overall	80% - 90% attendance, active participation in class and excellent conduct overall	80% - 90% attendance, good participation in class and very good conduct overall	70% - 80% attendance, active participation in class and excellent conduct overall	70% - 80% attendance, good participation in class and very good conduct overall	50% - 70% attendance	50% - 70% attendance	50% attendance or less

CO-PO mapping									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Students will acquire a conceptual vocabulary of cultural urbanism	2	2	1	2	2	3	3	2
CO2	Students will learn to examine contemporary urban processes and debates through a cultural theory framework.	3	1	1	3	2	3	2	2
CO3	Students will be encouraged to read their own city from the themes introduced in the course	2	0	0	2	2	3	3	2

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

CO-PO mapped syllabi of B.Arch Course 2022-2023 – Architectural Building Construction and Materials 4

COURSE CODE	BARC 407	CREDITS	4 (3 for ARD and 1 to Allied Design)
COURSE NAME	Architectural Representation and Detailing 4	SESSIONAL MARKS	100
FACULTY	Vikram, Neeraj, Dharmesh, Minal, Kimaya, Bhavin, Ahana.	EXAM SCHEME	Theory- 50 marks
CLASS DAY/TIME	Thursday 08.00- 03:00	NON-CLASS TIME	12

PEDAGOGIC INTENT	To impart documentation skills through observation. To equip learners with the ability to apply learnings from observations to design
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COURSE METHODOLOGY	Lectures Documentation and analysis exercises Studio for application of learnings into design
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	24/11/2022	Review of Wall Sections		
2	01/12/2022	Review of Connected Wall Sections		
3	08/12/2022	Design Development 1		
4	15/12/2022	Design Development 2		
5	22/12/2022	Design Development 3		
6	05/01/2023	Resolution Studio 1	Plans and Sections	10
7	12/01/2023	Resolution Studio 2	Structural Design	10
8	19/01/2023	Site Visit (RCC Casting)		10
9	26/01/2023	Holiday		
10	02/02/2023	Resolution Studio 3	Site visit learnings application to design	10
11	09/02/2023	Resolution Studio Final Grading	Final drawings	10
12	16/02/2023	Construction Test	Class test	50

LEARNING OUTCOMES	Skills of the documentation process through observations, surveying, measured drawings, sketches and documentation photography oriented towards drawing and representation of the construction components
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READING LIST/ REFERENCES	Barry; Introduction & Advanced Construction; Chudley; Mitchel; Ching;
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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 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 Outcome (Co)	Description
CO1	To understand, how to represent regional diversity and its correlation with construction systems and tectonics.
CO2	Creating a collective exhibit (online), representing learnings of observed
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.

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.

Rubrics:

Year of Assessment : 2022-2023	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	ARD 4		407	100	50	4(3+1)	Multiple		
Exercise: Title	Integrated Design Studio: Using the learnings from Sem 3								
Exercise Note / Task	Portfolio submission by students								
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

Course Outcomes (CO):

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 incorporating the minimum requirements	Arbitrary 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 excellent insights using 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 Sem4...

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	Creating a collective exhibit (online), representing learnings of observed	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

COURSE CODE	BARC 408	CREDITS	3
COURSE NAME	Architectural Building Services 2	SESSIONAL MARKS	50
FACULTY	Minal. Y. Ahana S.	EXAM SCHEME	50
CLASS DAY/TIME	Monday 9.40 - 11.20	NON-CLASS TIME	2 hours per week

READING LIST/ - Plumbing: installation and design, Drainage Details, Rain screen Cladding: a guide to design principles and practice, Architectural systems: a needs, resources and design approach,

PEDAGOGIC INTENT – Comfort and hygiene in a building are just not important but needs to be incorporated at the planning stage to achieve smooth construction process. Resource management is another important aspect while planning to achieve sustainability. Food, water, and energy crisis is eminent with climate change and enabling this understanding of resource management is the crux of the course. Inherent understanding of water and waste conservation through various landscape and natural means and intuitively encompassing in the design process is the intent of the course.

COURSE METHODOLOGY – Lectures and case studies

LECT	DATE	TEACHING CONTENT
1	28/11/22	Study trip work – introduction to the case study exercise
2	5/12/22	Drainage continues – decentralized systems
3	12/12/22	Public Toilet - design principles, design details, typology, material specifications,
4	19/12/22	Public toilets – fixtures, fittings, ergonomics, norms and provision, auxiliary space
5	26/12/22	Winter Break
6	2/01/23	Introduction to wastewater treatment
7	09/01/23	Wastewater continues
8	16/01/23	Introduction to rainwater drainage - water scenario in Mumbai, water harvesting in past and now,
9	23/01/23	Contemporary methods of rainwater harvesting systems, storm water system
10	30/01/23	Rainwater continues
11	6/02/23	Alternate and sustainable systems of drainage
12	13/02/23	Presentation by students – (5 groups will present)
13	20/02/23	ANNUALS
14	27/02/23	Presentation by students (5 groups will present)
15	6/03/23	Presentation by students (5 groups will present)
16	13/03/23	Revision
	20/03/23	Gudi Padwa Holiday

LEARNING OUTCOMES – Students can apply various resource management strategies inherently in their designs and arrive at a sustainable solution to water and waste issues at building level through landscape strategies.

CO-PO mapped syllabi of B. Arch Course 22-23 – 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 de-layer 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 site 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 system.
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: 2022-2023	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	1. Case study presentation, 2. Site planning and FF strategies for their AD project in ARD studio								
Exercise Note/task	Detailed drawings prepared for working drawing portfolio								
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)Underst anding 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.	Extremel y poor understanding of the system.	Non-Submissi on
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	Represent ation needed clarificati on	Drawings not clear enough	Non-Submissi on
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	1	2
CO2	To understand the framework and modality of stormwater management systems in and around a building, using case study-based approaches.					1	2		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.					1	2		2

COURSE CODE	409	CREDITS	2
COURSE NAME	Architectural Theory 2	SESSIONAL MARKS	50
FACULTY	Rohan Shivkumar, Ginella George, Ahana Sarkar	EXAM SCHEME	NIL
CLASS DAY/TIME	Tuesday / 1.20-3.00 pm	NON-CLASS TIME	-

PEDAGOGIC INTENT The Theory of Design Course provides a space to enable the students with critical thinking skills across the five years of architecture school. It provides a space for the student to consider the relationship between the 'self' and the frameworks through which it is constructed, and the choices made with respect to design. These are naturally not mutually exclusive and the attempt is to constantly create a dialectical relationship between the concepts that shaped the object and the nature and presence of the object itself. The attempt would be to create an unstable field within which questions and concerns can oscillate constantly critiquing each other.

COURSE METHODOLOGY The Architectural Theory course in the second year primarily focuses in the ideas of the modern movement. The course in the fourth semester will trace ideas that have shaped architectural thinking over the past 150 years around the world. This will extend from the third semester. While architecture will be the primary discipline that will be looked at in this course, the objects will be placed in conceptual, cultural and historical context through other references that may come from literature, visual art or film. Relevant readings will also be interspersed through the course.

LECT	DATE	TEACHING CONTENT
1	29.11.2022	The Chicago Skyscraper
2	06.12.2022	Dutch Avant Garde
3	13.12.2022	The Will to Soar
4	20.12.2022	German Expressionism
5	03.01.2023	New Objectivity
6	10.01.2023	Soviet Avant Garde
7	17.01.2023	Modernist Utopias
8	24.01.2023	Modernist Utopias
9	31.01.2023	Building National Mythologies
10	07.02.2023	Building National Mythologies
11	14.02.2023	Le Corbusier
12	21.02.2023	The International Style
13	28.02.2023	Bombay Modern
14	07.03.2023	Bombay Modern
15	14.03.2023	Assignment Submission

LEARNING OUTCOMES

1. To critically analyse and take a position with respect to acts of design
2. To engage with the ideas and concepts that have shaped architectural thinking.

READING LIST/ REFERENCES

1. Le Corbusier. Toward an Architecture. Translated by John Goodman. Los Angeles: Getty Research Institute (2007)
2. Prakash, Vikramaditya. Chandigarh's Le Corbusier: The Struggle for Modernity in Postcolonial India, University of Washington Press (2002)

3. Cumming, Elizabeth. The Arts and Crafts Movement (World of Art), Thames & Hudson (1991)
4. Rao, Nikhil. House, but No Garden: Apartment Living in Bombay's Suburbs, 1898-1964, University of Minnesota Press
5. Frampton, Kenneth. Modern Architecture: A Critical History, Thames & Hudson Ltd; 2nd Revised edition (1985)

ASSIGNMENT

1. Constellation of Ideas
Students will be assigned to every lecture to respond to the lecture in the following class with two images each. The student through these two images will speak how they have referenced an idea discussed in the class. A wall of images will be built through the semester.

CO-PO mapped syllabi of B.Arch Course 2022-2023 – Architectural Theory 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 Theory II

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: 2022-2023	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	2					
Exercise: Title	Constellation of Ideas									
Exercise Note / Task	Students will be assigned to every lecture to respond to the lecture in the following class with two images each. The student through these two images will speak how they have referenced an idea discussed in the class. A wall of images will be built through the 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										
Discussion of 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 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	0	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

COURSE CODE	420	CREDITS	3
COURSE NAME	College Projects 3)	SESSIONAL MARKS	100
FACULTY	Ginella G, Rutika P, Mamta P Sanaeya V, Rutika P, Aishwarya P	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 8.00 – 9.40 am MONDAY, 1:20pm to 3:00 pm	NON-CLASS TIME	-

Course 1 – Tectonics studies

COURSE CODE	420	CREDITS	2
COURSE NAME	Tectonic Studies (College Projects 3)	SESSIONAL MARKS	50
FACULTY	Ginella George, Rutika Parulkar, MamtaP	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 8.00 – 9.40 am	NON-CLASS TIME	-

PEDAGOGIC INTENT	The Tectonics Studies is imagined to be a series of lectures and activities exploring Architecture and its making. The course is structured across four semesters through a series of sixty-four words highlighting the processes in the making of Architecture. The course reveals the close proximity or influences between theory and technology, experience and built environments.
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COURSE METHODOLOGY	Tectonic Studies in Semester 3 and 4 is structured around the aspect of 'Self and Experience'. The experiences the body undergoes in spatial conditions are pre-determined in the initial stages of design thinking. The projects are curated to help realise the various architectural elements and material choices that are employed to accentuate experiences in space through light, sound, texture, colour, etc.
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LECT	DATE	TEACHING CONTENT
1	05.12.2022	Reading Three buildings
2	12.12.2022	Diagramming Sem 3 AD project
3	19.12.2022	Element 1: Material
4	26.12.2022	<i>Holiday</i>
5	02.01.2023	Element 1: Material
6	09.01.2023	Element 1: Material
7	16.01.2023	Element 2: Form
8	23.01.2023	Element 2: Form
9	30.01.2023	Element 2: Form
10	06.02.2023	<i>Independence day Holiday</i>
11	13.02.2023	Element 3: Detail
12	20.02.2023	<i>Electives</i>
13	27.02.2023	Element 3: Detail
14	06.03.2023	Element 4: Construct
15	13.03.2023	Element 4: Construct
16	20.03.2023	Assignment
17	27.03.2023	Assignment

LEARNING OUTCOMES	The Tectonics Studies lecture series will allow the students to learn to explore Architecture, Design and the larger landscape through a critical lens, with a dissection of projects through various layers as a tool of studying, understanding and celebrating Architecture.
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Course 2 – History Lectures

COURSE CODE	BARC 305/ 320	CREDITS	2 (1 CP + 1 Humanities)
COURSE NAME	Humanities (History) + College Projects 3 (History)	SESSIONAL MARKS	25 + 25
FACULTY	Sanaeya Vandrewala, Rutika Parulkar, Aishwarya Padmanabhan	EXAM SCHEME	Internal (50)
CLASS DAY/TIME	MONDAY, 1:20pm to 3:00 pm	NON-CLASS TIME	3

PEDAGOGIC INTENT	The History course for semester 4 is imagined as a continuation of semester 3 which primarily focuses on the emergence of cities as a result of established Power, ranging across geographies and a time period of 6000 BCE - 15th century. Using the presence of the trade route (Silk Route, Grand Trunk road, etc.) as a point of departure, the course will open up two divergent areas of historical narratives, however taking place in parallel, one that flourishes in the West, predominantly during the Renaissance and the Baroque period and the second that of the influences trade over the Eastern landscapes of Asia, India included. Considering during this period and beyond, Arabian empires such as the Ottoman Empire played a crucial role not only in the facilitation of trade that took place across its territories, but also in the spreading of Islam, the course shall in parallel investigate the emergent religious influence on the institutions that emerged in India, during the Sultanate period extending into the Mughal period. The tenet of trade, seen not only as means of exchange of commodities but also as means of knowledge dissemination allows for the course to investigate both monuments as well as everyday architecture alike that is largely influenced by the transforming cultures through acquired knowledge. Renaissance Baroque Islamic Persian Delhi Sultanate Deccan Kings Mughals
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COURSE METHOD	The course shall open up crucial questions of conception, production and expression through the identification of crucial artifacts and architectural objects (cities, institutions, landscape, ornaments, architectural elements etc.) that belong to the time period of the 15th century up until the late 17th century AD that are a resultant of trade or traded practices. Individual narratives shall also address larger contemporaneous contexts that may directly or indirectly have affected the ways in which architecture emerged during the aforementioned time periods. The course shall also attempt drawing parallels and references that have been borrowed from the same (eg. Indian Baroque, etc.)
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
Week 1	28/11/2022	Introduction to Renaissance period		
Week 2	05/12/2022	Renaissance European city planning	Every student will have to research upon one invention made during the Renaissance and make an advertisement highlighting the paradigm shift the object brought about during the time	

Week 3	12/12/2022	Baroque renaissance and baroque architectural/precinct example- St. Peters
Week 4	19/12/2022	Transcultural influences of the Renaissance and the Baroque styles + Introduction of assignment high baroque versailles
Week 5	26/08/2022	Christmas
Week 6	02/01/2023	Working studio on Assignment
Week 7	09/01/2023	Assignment review
Week 8	16/01/2023	The Islamic World and its expansion - the Ottomon Empire
Week 9	23/01/2023	The Islamic World and its expansion - the Timurid Safavid – evolution of domes
Week 10	30/01/2023	Islamic proliferation in India - Delhi Sultanate
Week 11	06/02/2023	Deccan Sultanate
Week 12	13/02/2023	Vijayanagara Empire
Week 13	20/02/2023	elective
Week 14	27/02/2023	Class test
Week 15	06/03/2023	Mughals – institutions city level planning
Week 16	13/03/2023	Islamic imaginations of public structures

LEARNING OUTCOMES Understanding of characteristic features of both historic, planned and evolved towns are brought to the fore along with the influences that shape them. Assignments in recording the traits of these towns through morphological drawings and influences that shaped them through innovative representation.

READING LIST/ REFERENCES Global History of Architecture by Ching, Jarzombek, Prakash, History of Architecture in India by Christopher Tadgel
Spiro Kostoffl

CO-PO mapped syllabi of B.Arch Course 2022-2023 – College Projects 4 (History and Tectonics 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: History

Course Code: BARC 420 Sem 4 Second Year

Course Objectives:

- To create frameworks to enable the student to deal with the shifting scales in the historiography of the historical object
- To understand the constellation of ideas discussed in the earlier semesters to trace and write the history of a built object.
- To understand and analyze the built object through various thoughts and responses.

Course: Tectonic Studies

Course Code: BARC 420 Sem 4 Second Year

Course Objectives:

- To understand architectural form through its tectonic and physical aspects.
- To analyse an architectural object.

Course Outcomes (CO): (Tectonics studies and History)

Course Outcome (Co)	Description
CO1	To understand how history is situated as a part of a field of influences and references that are borrowed and interpreted through various projects.
CO2	Analytical understanding of the architectural object built at any given time period, towards larger questions of form, socio-political, socio-cultural structures using parameters such as scale, axis, geometry, orientation, movement, mass/ void relationships, etc.
CO3	Understanding the historicity of the architectural object/ city through comparison with other architectural objects that may be similar in typology, geometry, function/ program, spatial organization, patronage, material configuration and materiality, region, etc.
CO4	Understanding the making of an architectural object through details, material and structure
CO5	Analysing the expression of an architectural object

Rubrics: History

Year of Assessment: 2022-23	USM's Kamla Raheja Vidyaniidhi 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	College Projects 4 (History)	BARC 420	50	50	2CP + 1HU					
Exercise: Title	Renaissance Advertisement									
Exercise Note / Task	Every student will have to research upon one invention made during the Renaissance and make an advertisement highlighting the paradigm shift the object brought about during the time									
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	

Rubrics 2 (Tectonics):

Year of Assessment : 2021-2022	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 01: Marks out of	Credits	Date of submission				
SECOND YEAR - SEM 4	College Projects 3 (Tectonics)	BARC 420	50	50	2CP					
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										
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 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	To understand how history is situated as a part of a field of influences and references that are borrowed and interpreted through various projects.	1	1	3	2	2	3	3	3
CO2	Analytical understanding of the architectural object built at any given time period, towards larger questions of form, socio-political, socio-cultural structures using parameters such as scale, axis, geometry, orientation, movement, mass/ void relationships, etc.	1	2	0	1	0	3	3	1
CO3	Understanding the historicity of the architectural object/ city through comparison with other architectural objects that may be similar in typology, geometry, function/ program, spatial organization, patronage, material configuration and materiality, region, etc.	0	2	0	0	0	1	1	0
CO4	Understanding the making of an architectural object through details, material and structure	3	3	3	1	0	3	3	2
CO5	Analysing the expression of an architectural object	3	3	3	2	1	3	3	3

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

Program Specific Objectives

Third Year

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 student's 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.

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	Theor y (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	History Lecture BARC 507/BARP 520 1ARD +1CP Ginella Sarah	Architectural Design Studio BARC 501 4AD Rohan Shivkumar Jude D'Souza George Jerry Deepshikha J Shail Bajaria Swati S Vinit N Krish Shah	Technology Studio (WD) BARC 503/BARC 508/BARC 507/BARC 504 1ABC +1ABS+2ARD+1TOS=5 Minal Ainsley Jamshid Neeraj Dyanesh Kimaya Shantanu K	Allied Design Studio (Landscape Ecology) BARC 502/BARC 507 3ALD +1ARD Rutika Kimaya Swati S Apoorva I Shruti S Noopur S	Architectural Design Studio BARC 501 4AD Rohan Shivkumar Jude D'Souza George Jerry Deepshikha J Shail Bajaria Swati S Vinit N Krish Shah	Theory of Structures BARC 504 2TOS Bhargav Mamta
8.50 - 9.40						
9.40 - 10.30						
10.30 - 11.20						
11.20 - 12.00	B R E A K					
12.00-12.50		Technology Lecture 1 (ABC) Jamshid Neeraj	Technology Studio		ENCOUNTERS	
12.50- 1.20	L U N C H B R E A K					
1.20 - 2.10	Tectonic Studies (College Projects) BARP 520 2CP George, Swati	Technology Lecture 1 (ABC) BARC 503 3ABC Jamshid Neeraj	Architectural Theory BARC 509 2AT Rohan	Humanities BARP 505 2HUM Hussain Shweta	Technology Lecture 2 (ABS) BARC 508 2ABS Minal Faculty	
2.10 - 3.00						
33+3(Electives)= 36 credits	6	7	7	4	7	2

COURSE CODE	BARC 501	CREDITS	8
COURSE NAME	Architectural Design Studio	SESSIONAL MARKS	200
FACULTY	Deepshikha Jaiswal, George Jacob, Jude Dsouza, Krish Shah, Rohan Shivkumar, Shail Bajaria, Swati Seshadri and Vinit Nanivadekar	EXAM SCHEME	External and Internal
CLASS DAY/TIME	Tuesday & Friday 08:00 to 11:20	NON-CLASS TIME	

PEDAGOGIC INTENT	<p>The post-colonial state embraced the possibility this modernity offered and this it expressed in its architecture that veered between the seemingly opposing poles of a belief in the redemptive power of technology, and a primitive urge for purity. Abstractions into numbers and/or universalised value systems rather than enable freedom instead seemed to create more systems of oppression. The alienation of living in the the modern city administered by unending tiers of bureaucracies entangled within maze like corridors of power impossible to understand and navigate. The removal of specificities, excising of meaning from our lives, the denial of history, community, dialects, idiosyncrasies, denied rather than enabled us to fulfil ourselves as true democratic citizens.</p> <p>The Third Year Architectural Design project wants to reclaim the dream of the democratic by designing some of the infrastructures created by the state to enable it. Freedom, Laughter, Beauty, Joy, Narrative, Longing, Love, Play, Knowledge, Dignity. The myth of this utopian land where these exist for all is to be reclaimed by the act of architecture- for architecture has no meaning if it does not have hope.</p>
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COURSE METHODOLOGY	<p>The project seeks to intervene on a series of infrastructural / institutional sites reserved by Development Plan(DP) for 2034 and design public amenities for the city. Development plan (DP) and its accompanying development control regulations (DCRs) guide the development in the city. Every 20 years, the DP takes on the herculean task of allocating sites for infrastructure and amenities for the growing urban population on a shrinking supply of vacant urban land. The accompanying DCRs dictate the built form of the development that takes place on these plots.</p> <p>Here the methodology meant to rationalize the planning process made it difficult to incorporate the specificity of demands. The scale and two-dimensionality of the plan is an additional hinderance as planners cannot imagine hybrid built forms that can negotiate claims through design. The accompanying DCRs are also limited in their concern to provide light, ventilation and services in public buildings and do not imagine norms for a public interface between government buildings and the city.</p> <p>The third-year design project shall work with these complexities of the site. It will attempt to look at the role of architecture in representing the desire for a freer, just and loving community. It will focus on an area of the city that has been notoriously under served by the institutions of the city- the M Ward. This Ward to the North-east of the old city was been the site where much of the city's back-end infrastructure has been dumped. These include a large garbage dump and the largest slaughterhouse of the city. Along with these infrastructures, it has also been the place where communities displaced because of infrastructure projects have been housed. The conditions of these housing projects are deplorable and this ward sees some of the worst human development indices of the city. According to a report by the Tata Institute of Social Sciences over 77.5% of the M Ward lives in slums. The ward has the lowest Human Development Index for the city (0.05). It is a site that has a large populations of the disenfranchised and marginalised groups of the city. At the same time, this is also a site that lies at the crossroads of the connections of the city with the hinterland. It has seen large infrastructure projects like the Eastern Express Highway increase its connectivity with South Mumbai.</p> <p>Meanwhile the state continues to project Mumbai as a 'World Class City' building large infrastructure projects like the coastal road and metro corridors. The question we would like to raise in the studio is a critique of this world-class vision that emphasises the spectacle of the world class without catering to the needs and necessities of the communities that enable it to compete in the global economy. The students would engage with the communities in the first part of the project and arrive upon a programme / design strategy for intervening on institutional plots allocated by the BMC. In the process students will engage with carious questions on the role of architecture for making the world better? What does it represent? Who does it represent? Is merely the provision of services enough? Or does architecture have more responsibility than that?</p> <p>Process Stage 1 - Familiarity Through a series of tasks the students will become familiar with one neighbourhood in the ward. These tasks would include sketches, interviews, etc.</p> <p>Stage 2 - Analysis The students would then be allocated with plots in the Development Plan marked out for the provision of institutions to infrastructure. They would then propose a programme/ design strategy for that plot. The area of the building will be approximately 1000-1200 sq meters.</p> <p>Stage 3 - Proposition / Resolution The students would resolve the project through diagramming, model making, sketches, plans, etc.</p> <p>Stage 4 - Representation</p>
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	14/06/22	Landscape Study Trip to Bhopal		
2	17/06/22	Landscape Study Trip to Bhopal		
3	21/06/22	Landscape Study Trip to Bhopal		
4	24/06/22	Introduction to AD Brief and Context. Stage-1 begins		
5	28/06/22	Elective Week / to visit context		

6	01/07/22	Elective Week / to visit context		
7	05/07/22	Studio discussions	Find actors / everyday	
8	08/07/22	Studio discussions	Public life	
9	12/07/22	Studio discussions		
10	15/07/22	REVIEW 1: Stage-1 ends, Stage-2 begins	Sketches and initial ideas leading to design intent	10
11	19/07/22	Studio discussions		
12	22/07/22	Studio discussions		
13	26/07/22	Studio discussions		
14	29/07/22	REVIEW 2: Stage-2 ends, Stage-3 begins	Programme and design strategy explained through drawings	20
15	02/08/22	Studio discussions		
16	06/08/22	Studio discussions		
	09/08/22	Studio discussions		
	12/08/22	Studio discussions		
	16/08/22	Parsi New Year		
	19/08/22	Studio discussions		
	23/08/22	Studio discussions		
	26/08/22	REVIEW 3: Stage 3 ends, Stage-4 begins	Complete Set of Drawings specified by faculty	20
	30/08/22	Presentation on Representation	Modes of representation and detailing lecture	
	02/09/22	Ganesh Chaturthi Holiday		
	06/09/22	Studio discussions		
	09/09/22	PRE-FINAL	Complete Set of Drawings	20
	13/09/22	Studio discussions		
	16/09/22	Studio discussions		
	20/09/22	Studio discussions		
	23/09/22	Studio discussions		
	27/09/22	Studio discussions		
	30/09/22	FINAL	Complete Set of Drawings	30 + 100 (external)
	01/10/22			
	04/10/22			
	07/10/22			
	11/10/22			
	14/10/22			

LEARNING OUTCOMES	<ol style="list-style-type: none"> 1. Site and Context study and exposure to communities 2. Role that architecture can play in supporting and empowering marginalized communities 3. Building of representational techniques 4. Writing individual design intents 5. Developing jury presentation skills
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READING LIST/ REFERENCES	
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CO-PO mapped syllabi of B.Arch Course 2022-2023

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 to 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

COPO Mapping Setup for Sem 5

Year of Assessment : 2022-23	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			Credits	Date of submission		
3 Year, 5 Semester	Architectural Design	BARC 501	100			8	1 October 2022		
Exercise: Title	Architecture of the State: The Institutions of Democracy								
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 along with taking complete responsibility of the studio assignments	90% to 95% attendance and visibly very participative along with sharing responsibilities of studio assignments	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 along with 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 technological 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	Satisfactorily 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.

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

COURSE CODE	BARC 502	CREDITS	3+1 (ARD)
COURSE NAME	Landscape Studio (ALLIED DESIGN 5)	SESSIONAL MARKS	100
FACULTY	Swati S, Rutika P, Noopur S S, Neha S, Kimaya K, Apurva I	EXAM SCHEME	NIL
CLASS DAY/TIME	Thursday 8.00 – 11.20 pm	NON-CLASS TIME	-

PEDAGOGIC INTENT	The primary aim of the studio is to equip the students to acknowledge and discern the interconnected ecological systems in the human-nature conundrum. The studio encourages the students to explore this understanding to document, analyze, respond, and design experiential landscape spaces.
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COURSE METHODOLOGY	<p>The Studio takes various approaches to pedagogy:</p> <p>The study trip to Bhopal sets the tone for the Landscape studio for SEM 5. The study on the trip is based on the pedagogy of scales of seeing, where students will explore different layers of landscapes in the city fabric. Calibrating scales and reading the city will help students to discern the interconnected ecological systems. This will enable reading and representing the city as WEAVE through landscape entities (both biotic and abiotic) their interrelationships and their influences in shaping the place.</p> <p>The second assignment - 'Explorations in Space-Binary Responses' is designed on the principles of 'reflective pedagogy' allowing for the students to learn from their decisions in approaching the exercise.</p> <p>The third assignment introduces students to different scales of landscape interventions on site. The objective of this assignment is to help the students become fully versed in the principles of grading to be capable of manipulating ground forms from a design point of view.</p>
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3	30.06.2022	Elective week
4	07.07.2022	Bhopal Study continues - <i>Exhibition on 9th June (tentative)</i> Introduction of Assignment - <i>Explorations in Space-Binary Responses</i> and assigning of mentor and mentee groups.
5	14.07.2022	Review and working session Faculty Presentation - <i>Reading Landscapes</i>
6	21.07.2022	Review and working session Faculty Presentation - <i>Landscape Explorations</i>
7	28.07.2022	Review and working session followed by <i>submission Explorations in Space-Binary Responses</i>
8	04.08.2022	Introduction to Site Grading Assignment Faculty Presentation - <i>Site and Grading Strategies</i>
9	11.08.2022	Working session and review
10	18.08.2022	Working session and review
11	25.08.2022	Working session and review
12	01.09.2022	Ganpati Break
13	08.09.2022	Working session and review
14	15.09.2022	<i>Prefinal Submission</i>
15	22.09.2022	<i>Final Jury /Presentation/Submission</i>

LEARNING OUTCOMES	<ul style="list-style-type: none"> • Be able to discern natural processes and their inter-dependencies. • Identify ways of seeing and documenting un-built entities (both anthropogenic and natural). • Learn to represent unbuilt spaces and experiences through the medium of drawing. • Analyze and integrate the observations from the contexts with the help of case studies. • Develop landscape interventions that respond to the site and architectural contexts.
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READING LIST/ REFERENCES	<p>Form and Fabric in Landscape Architecture: A Visual Introduction, Catherine Dee Landscape Graphics by Grant W. Reid Landscape as Inspiration by Hans Dieter Schaal Landscape of Memory and Experience - Jan Birksted Landscape of Man</p>
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LECT	DATE	TEACHING CONTENT
1	16.06.2022	Study trip Bhopal - Faculty Presentations - Ways of seeing and documenting, Historical and ecological narratives of Bhopal.
2	23.06.2022	Bhopal Study continues - Working studio Faculty Presentation - <i>Perceptions of Landscape</i>

CO-PO mapped syllabi of B.Arch Course 2022 -2023– 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 course aims at introducing the students to the dual aspects of landscape architecture- sensitivity to discern interconnected ecological systems and the various landscape entities (both biotic and abiotic), their interrelationships and influences in shaping the place and understanding the experiential and spatial quality of landscape spaces (independently and in conjunction with architecture). The studio encourages the students to explore this understanding to document, analyse, respond, and design experiential landscape spaces.

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 apply the principles of grading to be capable of manipulating ground forms from a design point of view.
CO3	To understand the broader sense of the relationship between the built environment and the larger ecological region.
CO4	To analyze and integrate the observations from the contexts into their design programs.
CO5	To develop the ability to conceive and demonstrate landscape interventions that respond to the site and architectural contexts.

Rubrics:

Year of Assessment : 2022-2023	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 (ARD)					
Exercise: Title	Emphasis on architectural and spatial understanding of landscape focusing from larger regional scale to smaller scales that are experienced immediately outside the architectural footprint.									
Exercise Note / Task	The starts Exercise with a study trip based on scale of seeing, where students will explore different layers of landscapes in the city fabric at different scales from region to macro site-specific. Calibrating scales and reading the city will help students to discern the interconnected ecological systems. This will enable reading and representing the city as WEAVE through landscape entities (both biotic and abiotic) their interrelationships and their influences in shaping the place. The assignment introduces students to different scales of the landscape of interventions. The objective of this assignment is to help the students become fully versed in the principles of grading to be capable of manipulating ground forms from a design point of view.									
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 analyse the data collected	Showcasing fair insights using adopted tools, and frameworks to develop a 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	Exceptional analytical drawings and clarity in	Well-curated outstanding analytical drawings	Very well curated outstanding analytical drawings	Excellent curation using outstanding analytical	Very Good curation using outstanding analytical	Good curation using outstanding analytical	Fair curation using outstanding analytical	Basic level of inquiry incorporating the minimum	Arbitrary and Adhoc Inquiry	

analytical drawings	explaining the concept and design intent	and clarity in explaining the concept and design intent	and clarity in explaining the concept and design intent	drawings and clarity in explaining the concept and design intent	drawings and clarity in explaining the concept and design intent	drawings and clarity in explaining the concept and design intent	drawings and clarity in explaining the concept and design intent	requirements	
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 "PG 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 apply the principles of grading to be capable of manipulating ground forms from a design point of view.	2	2	2	0	0	0	2	3
CO3	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
CO4	To analyze and integrate the observations from the contexts into their design programs.	2	1	1	1	2	3	2	3
CO5	To develop the ability to conceive and demonstrate landscape interventions that respond to the site and architectural contexts.	2	3	3	2	1	3	3	3

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

COURSE CODE	BARC503	CREDITS	3 Lectures + 1 Studio
COURSE NAME	Architectural Building Construction and Materials 5	SESSIONAL MARKS	100
FACULTY	Minal, Ainsley, Jamshid, Neeraj, Dyanesh, Kimaya, Shantanu K	EXAM SCHEME	Theory- 50 marks
CLASS DAY/TIME	Wednesday 08:00	NON-CLASS TIME	12

PEDAGOGIC INTENT	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.		
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COURSE METHODOLOGY	Students are to be made well versed with analytical as well as detailing skills of the institution typology through the site and case studies whereby all aspects of structure and skin are understood well in detail so as the same may help the student in understanding the resolution as well as detailing of renowned Institutional structures. <i>Learnings from the lecture courses shall be applied in specific exercises in the Technology Studio for studio credits and marking.</i>		
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Lecture

COURSE CODE	BARC503	CREDITS	3
COURSE NAME	Architectural Building Construction and Materials 5	SESSIONAL MARKS	100
FACULTY	Jamshid, Neeraj	EXAM SCHEME	Theory- 50 marks
CLASS DAY/TIME	Tuesday 01.20-3:00	NON-CLASS TIME	12

WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	07/06/2022	Introduction to Specification and BOQs		
2	14/06/2022	Types of Specifications		
3	21/06/2022	Subterranean framed structure systems		
4	28/06/2022	Shallow basement and retaining walls		
5	04/07/2022	Framed RCC structural system		
6	11/07/2022	Designing in structural steel		
7	18/07/2022	Metal floor systems		
8	25/07/2022	Advanced Slab Systems 1		
9	01/08/2022	Advanced Slab Systems 2		
10	08/08/2022	Lightweight steel roof above large spans		
11	22/08/2022	RCC and steel stairs and ramps		
12	29/09/2022	Skins and fenestrations		

Studio

COURSE CODE	BARC 507	CREDITS	6 (4ARD + 1 ABS + 1 ABC + 1 TOS)
COURSE NAME	Architectural Representation and Detailing 5	SESSIONAL MARKS	150 (later converted to 100)
FACULTY	Minal, Ainsley, Jamshid, Neeraj, Dyanesh, Kimaya, Shantanu K	EXAM SCHEME	Sessional both internal and external
CLASS DAY/TIME	Wed – 8.00 -12.50 pm	NON-CLASS TIME	5 hrs

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		
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COURSE METHODS	It's a working studio and one-to-one interaction with respective faculty who have been assigned to guide them to resolve their projects.		
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	DATE	TEACHING CONTENT	MARKING WEIGHTAGE	ASSIGNMENTS
1 st WEEK	08/06/2022	Introduction + Design development		
2 nd WEEK	15/06/2022	Lecture by Ainsley on spatial understanding and DD + Studio		
3 rd WEEK	22/06/2022	SUBMISSION	10 ARD + 10 TOS + 5 ABC + 5 ABS	Sketch plans, sections based on concept, climate, material, systems and site strategies
4 th WEEK	29/06/2022	Lecture by Kimaya on Climate responsive architecture + Design resolution		Site strategies
5 th WEEK	05/07/2022	Lecture by Minal as Services and systems as design drivers + Design resolutions	----	Ground floor plan
		Lecture by Dharmesh + Design resolutions		LP, CP, FP and SP
6 th WEEK	12/07/2022	SUBMISSION	10 ARD + 10 ABS	LP, CP, FP and SP + BOQ till plinth
7 th WEEK	19/07/2022	Lecture by Neeraj	10 ARD + 10 ABS	Detailed floor plans with structural and fenestration system + acoustic resolution
8 th WEEK	26/07/2022	Lecture by Shantanu	----	Elevations and sound lines
		Midterm compilation	20 ARD + 10 TOS + 10 ABS	Acoustical resolution with RT
9 th WEEK	02/08/2022	SUBMISSION	20 ARD	Section and elevations, 3D, BOQ till superstructure
10 th WK	09/08/2022	Review of swap portfolio	10 ARD + 10 ABC	SWAP & midterm marking
11 th WK	23/08/2022	Review on detail (strip wall section)-1	10 ARD + 10 ABC	Strip wall detailed section
12 th WK	30/09/2022	Review of advanced roof/floor system 2	10 ARD + 20 ABS	Advanced roof/floor sys.
13 th WK	07/10/2022	Review of toilet details 3	10 ARD + 10 ABC	Toilet detail submission
14 th WK	14/10/2022	Review of Synthesis drawing	30 ARD	Synthesis drawing
			ABS – 50 MARKS	
			ABC – 50 MARKS	
			TOS -30 MARKS	
			ARD - 150	

LEARNING OUTCOMES	Students should have derived the ability to resolve structure through innovation, understand the strengths and limitations 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.
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READING LIST/ REFERENCES	Building Construction Handbook by Chudley & Greeno, Advanced Construction by Barry, Structure and fabric part II by Michelle
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – Architectural Building Construction and Materials 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 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:

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture										
Year of Assessment : 2022-2023	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	TLC033	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 incorporating the minimum requirements	Arbitrary 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

CO-PO mapping for a course of “UG program” Architectural Building Construction and Materials 5									
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

CO-PO mapped syllabi of B.Arch Course 2022-2023 – *Theory and Design of Structures 5*

COURSE CODE	ATS053	CREDITS	3/ 2
COURSE NAME	Theory and design of structures	SESSIONAL MARKS	50
FACULTY	Bhargav, Mamta	EXAM SCHEME	Internal 50
CLASS DAY/TIME	Monday 12 to 12 50/ 1:20 – 15:00	NON-CLASS TIME	

PEDAGOGIC INTENT	To develop a sound understanding of the principles of structural steel systems with an emphasis on design at member level using a fusion of theoretical concepts and practical design examples. To understand the resistance of buildings to gravity and lateral force action; building stability; floor/roof framing systems
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COURSE METHODOLOGY	Interactive lectures with audio-visual aids and case-studies aimed at stimulating students to think, ask questions and pursue practical solutions to design problems. Proactive learning through customized assignments.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	18/06/22	History of steel structures		
2	25/06/22	Introduction to design of steel structural systems with reference to the steel tables. Drawing comparisons to monolithic systems.		
3	02/07/22	Understanding forces that determine member sizes in both steel and monolithic systems		
4	09/07/22	Statical function in steel systems		
5	16/07/22	Design of members in tension		
6	23/07/22	Comparison across other systems		
7	30/07/22	Electives		
8	06/08/22	Design of Compressive members		
9	13/08/22	Comparison across other systems		
10	20/08/22	Foundation systems		
11	27/08/22	Moment and shear connections		
12	03/09/22	Bracing structures		
13	10/09/22	Structure as Architecture		
14	17/09/22	Structure as Ornamentation		
15	24/09/22	Assignments		

LEARNING OUTCOMES	By the end of this course, students are expected to comprehend steel table and know commonly used steel sections in practice, understand the behaviour of various members in a steel structure and work out their preliminary sizes, and understand the fundamentals of connection design.
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READING LIST/ REFERENCES	Architecture and Structure, Angus McDonald
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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: 2022-2023	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 fair 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 incorporating the minimum requirements	Arbitrary 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 incorporating the minimum requirements	Arbitrary and Adhoc Inquiry
Representation Technique and final submission	Very well formatted presentation explaining concepts, process adopted using	Well formatted presentation explaining concepts, process adopted using	Clear formatted presentation explaining concepts, process adopted using	Very good formatted presentation explaining concepts, process adopted using	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 diagrams and sketches	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	adopted using various tools and techniques			
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

COURSE NAME	Humanities: A Social History of Mumbai	CREDITS	3
SEMESTER	5 (2022-23)	SESSIONAL MARKS	50
FACULTY	Hussain, Shweta	EXAM SCHEME	50 MARKS WRITTEN PAPER
TIME	Thursday 1.20 pm	NON-CLASS TIME	2 hours

COURSE DESCRIPTION	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 fifth semester we will explore the social history of early and late colonial period of Mumbai city-region.
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PEDAGOGIC INTENT / LEARNING OBJECTIVES	<p>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.</p> <p>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.</p> <p>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.</p>
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COURSE 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.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS
1	16 th June	Introduction: the method of social history	
2	23 rd June	Opium: the shape of trade and commerce	
3	30 th June		
4	7 th July	Plague: producing the sanitary city	
5	14 th July		
6	21 st July	Capital: making an <i>Urbs Prima in Indis</i>	
7	28 th July		
8	4 th Aug	Strikes: factories, chawls and working-class neighborhoods	
9	11 st Aug		
10	18 th Aug	Land: reclamations, surveys, enclosures	
11	25 th Aug		
12	1 st Sept	Nature: from swamps to nature parks	
13	8 th Sept		
14	15 th Sept	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.
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CO-PO mapped syllabi of B.Arch Course 2022-23 – HUMANITIES 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 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: BARC505
Sem 5

Course Objectives:

- 1) An introduction to Mumbai’s growth and transformation through a social-history perspective.
- 2) The course will provide a critical-historical framework to explore the social and spatial evolution of Mumbai region (MMR), through the framework of ‘production of space’
- 3) A historical overview of the city’s physical and demographic growth, economic and social geography, institutional-administrative structure, and urban planning and development policy.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	Students will adopt the ‘production of space’ as an analytical tool to study urban phenomena
CO2	To explore Mumbai’s growth and transformation through a social history perspective
CO3	A historical overview of the city’s physical and demographic growth, economic and social geography, institutional-administrative structure, and urban planning and development policy.

Rubrics:

Year of Assessment: 2022 - 2023	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Archite								
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 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 minimal understanding of the case, somewhat able to identify determinants	An minimal understanding of the case,	Little or no understanding 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% attendance or more, active participation in class and excellent conduct overall	90% attendance or more, good participation in class and very good conduct overall	80% - 90% attendance, active participation in class and excellent conduct overall	80% - 90% attendance, good participation in class and very good conduct overall	70% - 80% attendance, active participation in class and excellent conduct overall	70% - 80% attendance, good participation in class and very good conduct overall	50% - 70% attendance	50% - 70% attendance	50% attendance or less

CO-PO mapping Humanities Sem I									
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	To explore Mumbai's growth and transformation through a social history perspective	3	1	0	3	2	3	3	0
CO3	A historical overview of the city's physical and demographic growth, economic and social geography, institutional-administrative structure, and urban planning and development policy.	2	1	0	1	2	2	3	1

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

CO-PO mapped syllabi of B.Arch Course 2022-2023 – Architectural Building Construction and Materials 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 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:

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture										
Year of Assessment : 2022-2023	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	TLC033	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 incorporating the minimum requirements	Arbitrary 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

CO-PO mapping for a course of “UG program” Architectural Building Construction and Materials 5									
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

COURSE CODE	BARC 508	CREDITS	3
COURSE NAME	Architectural Building Services	SESSIONAL MARKS	50 marks
FACULTY	M. Yerramshetty	EXAM SCHEME	Theory - 50 marks
CLASS DAY/TIME	Friday – 1.20 – 3.00	NON-CLASS TIME	3 Hrs

PEDAGOGIC INTENT - The intent of the course at third year level focuses primarily on comfort, and safety. The intent of the course is to enable understanding of visual and acoustical comfort parameters and encompass it intuitively in the design process. The lighting design looks at comfort levels, creating ambience, safety factors and at the same time takes energy issues to resolve the design. Acoustical comfort is a necessity but in specialized building it is imperative. The course looks to impart this understanding not only through acoustical material selection and its application but from the basic of building layout, its shape, size, volume, structure, inter-relationship of spaces, various other services required to manage buildings such as auditorium, recording studios, conference rooms, audio visual rooms etc.

COURSE METHODOLOGY - Case study. Audio - visual presentation, discussion, debates and exercise based on architectural design

LECT	DATE	TEACHING CONTENT
1	17/6/2022	Study Trip
2	24/6/2022	Introduction to the course - syllabus discussion. Planning aspects of various typology of congregation spaces at site as well as at neighbourhood level. History of Auditoriums , design criteria and terminology
3	01/7/2022	ELECTIVE WEEK
4	08/7/2022	Planning aspects of congregation spaces especially auditorium and showcasing case studies
5	15/7/2022	Acoustics - Reverberation, calculation,theory of acoustics, defects in auditorium and elimination strategies, material used and their installation
6	22/7/2022	Acoustic theory continues.
7	29/7/2022	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, specification, details, tiling etc
8	05/8/2022	Public Toilet design with examples continues.
9	12/8/2022	Electricity - generation, transfer, distribution at city and site level, sustainable and safety measures to be considered at design level, electricity usage calculations.
10	19/8/2022	Electricity continues
11	26/8/2022	Electricity resolution for their design
12	02/9/2022	lighting design - lights in architecture, design consideration for lighting an area, different terminology, daylight, different

		systems of lighting, setting illuminance level, calculating fixtures, light categories and their fixtures
13	09/9/2022	Lighting continues
14	16/9/2022	Electricity/lighting exercise from tech studio
15	23/9/2022	Electricity/lighting exercise from tech studio
16	30/9/2022	Electricity/lighting exercise from tech studio

LEARNING OUTCOMES - 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 Installation 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 Buildings, B 4539 -Electricity, B 1649 - Electrical System for Architects.

REFERENCES

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 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 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 concepts, this course introduces 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 2022-2023:	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
	Subject: Architectural Building Services	Subject Code BARC 508	University subject code	Sessional Marks: 50	Exercise 01: Marks out of	Credits - 3	Date of submission	Upgarde 01	Upgrade 02
5 Sem									
Exercise: Title	Lighting and electrical resolution								

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 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

CO3	To analytically arrive at building energy-efficiency by applying alternative and renewable energy sources as well as regenerative systems.		1			2	1	2	2
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COPQ 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.		1			2		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	2	

CO-PO mapped syllabi of B.Arch Course 2022-2023 Architectural Theory 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.

COURSE CODE	BARC 509	CREDITS	2
COURSE NAME	Theory of Design	SESSIONAL MARKS	50
FACULTY	Rohan Karan	EXAM SCHEME	Internal
CLASS DAY/TIME	Wednesday (1.20-3.00)	NON-CLASS TIME	-
PEDAGOGIC INTENT	<p><i>The Theory of Design Course at the KRVA 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 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 its role is and how does this person place herself in the world.</i></p> <p><i>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'</i></p> <p><i>The Course in the 6th Semester focuses on ideas about architecture and art that emerge around the world in the period from the mid 60s to contemporary times</i></p>		
COURSE METHODOLOGY	This is primarily a lecture and discussion based course. The students are asked to submit a short essay on a topic of their choice.		
WEEK	Lecture	ASSIGNMENTS	MARKING WEIGHTAGE
1	08/06/22 Dada / Surrealism		
2	15/06/22 Black Mountain College		
3	22/06/22 Aalto / Kahn		
4	29/06/22 Team X - Brutalism		
5	06/07/22 Team X - Dutch Structuralism		
6	13/07/22 Team X - Participation		
7	20/07/22 Japanese Metabolism		
8	27/07/22 The Situationists		
9	10/08/22 Radical Fun	Initial Draft Submission	25%
10	17/08/22 Architecture without Architects		
11	24/08/22 The Crisis of Meaning - Robert Venturi		
12	31/08/22 The Presence of the Past		
13	07/09/22 The Uses of Tradition		
14	14/09/22 Discussion		
15	21/09/22 Q and A	Written Assignment submission	75%
16	28/09/22 Conclusion		
LEARNING OUTCOMES	To be exposed to the history of ideas in the twentieth century through architecture The ability to critically understand architectural practice within the given cultural and historical context		

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 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: 2017-2018	USM's Kamla Raheja Vidyaniidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	Subject:	University Subject	Sessional Marks: 100	Exercise 01	Credits	Date of submission			
Third Year, 5 Semester	Architectural Theory 3	509	50	50	2	27.09.2022			
Exercise: Title	Critical Analysis of a cultural artefact								
Exercise Note / Task	Students will be asked to choose one cultural artefact that they have been 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 “PG 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

COURSE CODE	BARC 520	CREDITS	2(Tectonics) + 1(History) + 1(ARD)
COURSE NAME	College Projects 5	SESSIONAL MARKS	Internal - 100
FACULTY	Ginella George, Sarah George, George Jacob, Swati Seshadri	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 8.00 – 9.40am Monday / 1.20-3.00 pm	NON-CLASS TIME	

Course 1: History

COURSE CODE	BARC 520	CREDITS	1 CP + 1 ARD
COURSE NAME	College Projects 5	SESSIONAL MARKS	Internal - 50
FACULTY	Ginella George, Sarah George	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 8.00 – 9.40am	NON-CLASS TIME	

PEDAGOGIC INTENT	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.
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COURSE METHODOLOGY	It is hoped that through the exercise, the student is able to deal with shifting scales in the historiography of the historical object. Faculty will engage with students through lectures and discussions.
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LECT	DATE	TEACHING CONTENT
1	04.07.2022	Introduction History & Culture - Its constructs, keywords etc
2	11.07.2022	Methods of history - The Historical Method
3	18.07.2022	Methods of history - The Ethnographical Method
4	25.07.2022	Methods of history - The Anthropological Method
5	01.08.2022	Building the Map
6	08.08.2022	Scales of reading and Network of relationships - India and the World
7	22.09.2022	Scales of reading and Network of relationships - India and the World
8	29.09.2022	On Writing History
9	03.10.2022	History of the World in 100 objects
10	10.10.2022	Review of Assignment

LEARNING OUTCOMES	The course aims to enable the student to ingest notions of one’s own cultural identity goes beyond the taxonomical method of categorising and describing the physical aspects of the historical object to include the purpose of its making. The emphasis is to understand, analyse and contextualize this information in contemporary times.
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READING LIST/ REFERENCES	<ol style="list-style-type: none"> 1. Spiro Kostoff- City Assembled 2. AEJ Morris- History of Urban Form 3. Norberg-Schulz: Meaning in Western Architecture 4. Gunther Binding-High Gothic-Age of Great Cathedrals 5. Benedict Taschen-Architecture of the world: Gothic 6. Spiro Kostof- History of architecture-Setting and rituals
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	<ol style="list-style-type: none"> 7. Tranchtenberg & Hyman- Architecture Prehistory to post-modern 8. Margaret Aston-The panorama of the renaissance 9. Jordon- Western Architecture 10. John Summerson- Classical language of Architecture 11. Bannister Fletcher-History of Architecture
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Course 2: Tectonics

COURSE CODE	BARC 520	CREDITS	2CP
COURSE NAME	College Projects 5	SESSIONAL MARKS	50
FACULTY	George Jacob, Swati Seshadri	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 1.20 – 3.00pm	NON-CLASS TIME	

PEDAGOGIC INTENT	The manifestation of the architectural object affirms continuity, change and confidence for the present catapulting into the future. The final outcome is the product of various influences playing out or negotiating each other into the finality of the desired object. The development of the expertise in constructively moderating the various influences is key to design thinking and the creation of the architectural object.
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COURSE METHODOLOGY	In order to achieve the expertise on developing a method for designing, it is imperative to conduct a critical reading of selected buildings and the processes employed by these respective architects. These cases will help articulate the outcomes of design decisions due to various influences that are direct and indirect, local and global, ethical and makeshift or functional and decorative. The 16 weeks is proposed to address various themes or situations curated as lectures by faculty through case studies at the global and regional contexts. The students will map and archive their individual design development exercised in the AD Studio, culminating into a compilation at the end of the semester.
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LECT	DATE	TEACHING CONTENT
1	04.07.2022	Yokohama Port terminal, Tube house
2	11.07.2022	Wall House 2, Institute of Indology
3	18.07.2022	CMRU Admin and Academic block, Holy Redeemer church
4	25.07.2022	Lovell house, South East coastal park
5	01.08.2022	Shroeder house, University of Cincinnati
6	08.08.2022	Health care centre – Flying Elephant, Bharat Bhavan
7	22.09.2022	La Muralla Roja, India International centre
8	29.09.2022	Habitat 67, Floating Theater
9	03.10.2022	House N, Mehsana Dairy board
10	10.10.2022	Chulalongkon University, Sagrada Familia

LEARNING OUTCOMES	Understanding various influences that are direct and indirect, local and global, ethical and makeshift or functional and decorative. Analysing and curating individual design development. Exploring components responsible in achieving a holistic architectural building. Realizing the kit of parts that are interdependent in the final manifestation.
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Rubrics 1 (History):

Year of Assessment: 2022- 2023	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	College Projects 5 (History)		BARP 520	50	50	1 CP + 1 ARD			
Exercise: Title	Writing an Architectural History								
Exercise Note / Task	Students will select a structure from their neighbourhood or city and attempt to write a history that goes beyond the information that is available beyond secondary sources. They will have to construct a history based on their engagement with and memory of the object.								
Assessment			Outstanding	Excellent	Very Good	Good	Fair	Dissatisfactory	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	Extremely articulate in framing the area for inquiry. 2) Very clear structure for presentation. 3) Well researched	Very articulate in framing the area for inquiry. 2) Clear structure for presentation. 3) Well researched	Clear and Articulate in framing the area for inquiry. 2) Well researched structure for presentation.	There is clarity in the area of inquiry 2) Research and structure for presentation is fairly good.	The area of inquiry is fairly good 2) Research and structure for presentation can be better.	The area of inquiry is good 2) Research and structure for presentation is fair.	There is clarity in the area of inquiry 2) Research and structure for presentation is found lacking	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 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 2 (Tectonics):

Year of Assessment: 2022- 2023	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	College Projects 5 (Tectonics)	BARP 520	50	50	2CP				
Exercise: Title	Description of a Structure								
Exercise Note / Task	Students to select a structure of their choice and describe the structure in text and diagrams through any four aspects of 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									
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 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 5

CO-PO mapping for a course of "UG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Creating frameworks to enable the student to deal with the shifting scales in the historiography of the historical object.	3	1	0	3	0	1	0	2
CO2	Applying a constellation of ideas, discussed in the earlier four semesters, to trace and write the history of a built object	1	2	3	1	0	3	3	3
CO3	Understanding and analysing the built object to dissect architectural history through various spectrums of thoughts and responses.	2	2	2	0	0	3	3	0
CO4	Understanding the making of an architectural object through details, material, structure and region	3	3	3	1	0	3	3	2
CO5	Analysing the expression of an architectural object in the urban context	3	3	3	2	1	3	3	3

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

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		
Sl. 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 VI Exam conducted by University of Mumbai		Examination Scheme			
Sl. 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	Tectonic Studies (Studio)	Architectural Design Studio	Technology Studio	Allied Design Studio	Architectural Design Studio	
		BARC 601	BARC 607/BARC 604/BARC608/ BARC 607	BARC 602	BARC 601	
8.50 - 9.40						
9.40 - 10.30	Tectonic Studies (Lecture)	Rohan Shivkumar George Jerry Shail Bajaria Vinit N	Jude D'Souza Deepshikha J Vandana Krish Shah	Minal Ainsley Neeraj Kimaya	Rutika Apoorva I Neha s Ketaki ,ANUBHAV , Saurabh B	Theory of Structures
	BARE 620					BARC 604
10.30 - 11.20	George Saurabh Anubhav					Mamta Jayashree
11.20 - 12.00	B R E A K					
12.00-12.50		Technology Lecture 1 (ABC) Jamshid , Neeraj	Technology Studio	Humanities Hussain Shweta,Karan	ENCOUNTERS	
12.50 - 1.20	L U N C H B R E A K					
1.20 - 2.10	Architectural Theory	Technology Lecture 1 (ABC)	Technology Lecture 2 (ABS)	Humanities	History Lecture	
	BARC 607	BARC 607	BARC 608	BARC 607	BARC 607	
2.10 - 3.00	Rohan Karan, Mamta	Jamshid, Neeraj	Minal Ahana , Mamta	Hussain Shweta, Karan	Rutika , Ginella , Sarah	
	4	7	7	7	6	2

COURSE CODE	BARC 601	CREDITS	3
COURSE NAME	Architecture Design Studio 6	SESSIONAL MARKS	100 + 100
FACULTY	George Jacob, Rohan Shivkumar, Vandana Ranjitsinh, Deepshikha Jaiswal, Vinit Nanivadekar, Krish Shah, Shail Bajaria, Jude Dsouza	EXAM SCHEME	External out of 100
CLASS DAY/TIME	Tuesday & Friday / 8:00 to 11:20	NON-CLASS TIME	6 Hrs 40 mins / week

PEDAGOGIC INTENT

Agency and Institution in a Temple Town
Acceptance, Capitulation, Subversion, Mutation, Resistance, Refusal

Ritual and Everyday Life in the Temple Town

Ever since Stella Kramrisch’s study of the Indian temple, architectural studies of the temple town have often focused on the artefact of the building itself as a diagram encapsulating mythical and cosmic ideas; or as a collection of symbols and motifs of significant meaning. This mode of studying the temple has a few unsaid presumptions, one of them being that the temple is primarily an object that becomes a portal towards the eternal, the unseen. Thus the temples that have become part of the historical narrative are the ones that display these characteristics.

However, these spatial practices are carefully choreographed within the spaces of the temple to make spaces of potency and latency. These respond to the cycles of the day or of the year. Rituals are prescribed, spatial distribution of bodies, clean or otherwise, are determined. These distributions channel the energy of the worshippers. Through constructing movements, denials and moments of discharges, a sense of the collective is made. This collective is made into a particular form and is reinforced through spatial configuration and ritual.

Pierre Bourdieu sees power as culturally and symbolically created, and constantly re-legitimised through an interplay of agency and structure. This is enabled by what he calls ‘habitus’ or socialised norms or tendencies that guide behaviour and thinking. It is the way societal patterns become entrenched in individuals in the form of dispositions, or capacities and propensities to think, feel and act in determined ways, which then guide their behaviour. Habitus is thus created through a social, rather than individual process.

The ‘habitus’ of a temple town creates certain fields of possibilities within which an individual’s patterns of behaviour are determined. These could be on the basis of caste, gender, age, or other presumptions based on the diagram of hierarchies based on religion. In other words, the everyday life of a temple town is structured to be subservient to an overall conception. It is supposed to neatly mirror the patterns determined by the

diagram. Yet, everyday life is not so easily controlled. While acquiescing to the determining diagram, it also offers resistances and subversions. For the study trip are interested in the possibilities that emerge in the tension between the idea, the form and everyday life.

COURSE METHODOLOGY

The Third Year study of institutions is interested in the ways in which the architecture of the temple town makes a community. What spatial systems, beliefs and practices are deployed to create and structure the society, and what resistances and subversions emerge when this community is challenged by other value systems? Can these lead to new forms of community- new kinds of identity? What are the institutions that emerge at the various points of intersection between different value systems? Could these take the form of mutations within existing systems to acknowledge transforming societal needs, or further reinforce older systems them with defensive manoeuvres that protect the perceived sanctity of the structure, or do they reject and dismantle the very structure itself?

This year we will be studying the temple town of Chidambaram in Tamil Nadu. The town is famous for the Nataraja Temple and the chariot festival. 250 kms away from the city of Chennai, the city plan is representative of a typical South Indian Temple Town, with a central temple complex and concentric rings of caste based streets around. Through the study the students will unpack some of the institutions that structure everyday life in the town. They will study these on the basis of the role that the institution is meant to play, the way in which it performs this role, programmatically and architecturally, and how these institutions intersect with the everyday life of the town. These will be problematized through by the introduction of an ‘Oblique Strategy’ for the students to evolve a position and a critique. These could be mutations, capitulations, subversions, resistances or even refusals of the exiting systems. These will then evolve into architectural strategies in the town.

WEEK	DATE	TEACHING CONTENT
1	15/11/22	Study Trip
2	18/11/22	Study Trip
3	22/11/22	Study Trip
4	25/11/22	Introduction and first conversations of the Studio
5	29/11/22	Group discussions around developing individual design intents
6	02/12/22	Group discussions around developing individual design intents
7	06/12/22	Group discussions around developing individual design intents
8	09/12/22	Group discussions around developing individual design intents
9	13/12/22	1 st Review: Design intent represented through models, sketches and case studies
10	16/12/22	Group discussions around developing formal strategies
11	20/12/22	Group discussions around developing formal strategies
12	23/12/22	Group discussions around developing formal strategies
13	03/01/23	Group discussions around developing formal strategies

14	06/01/23	Group discussions around programme strategies built form
15	10/01/23	Group discussions around programme strategies built form
16	13/01/23	2 nd Review: Formal strategies of design through models, sections,etc
17	17/01/23	Group discussions around programme strategies built form
18	20/01/23	Group discussions around programme strategies built form
19	24/01/23	Group discussions around programme strategies built form
20	27/01/23	Group discussions around design development
21	31/01/23	Group discussions around design development
22	03/02/23	Group discussions around design development
23	07/02/23	3 rd Review: Finalizing formal strategies and programme
24	10/02/23	Group discussions around design development
25	14/02/23	Group discussions around design development
26	17/02/23	Group discussions around design development
27	21/02/23	Group discussions around design development
28	24/02/23	Group discussions around design development
29	28/02/23	4 th Review: Design resolution
30	03/03/23	Group discussions around design resolution and representation
31	07/03/23	Group discussions around design resolution and representation
32	10/03/23	Group discussions around design resolution and representation
33	14/03/23	Group discussions around design resolution and representation
34	17/03/23	Group discussions around design resolution and representation
35	21/03/23	Group discussions around design resolution and representation
36	24/03/23	5 th Review: Prefinal Jury (complete portfolio)
37	31/03/23	Condonation
38	09/04/23	External Viva-voce

LEARNING OUTCOMES

1. Site and Context study and exposure to communities
2. Role that architecture can play in empowering communities through the act and programming of architecture of institutions.
3. The Oblique Strategy encourages the use of an external constraint that helps in challenging the mode of architecture delivery and channelize the process to achieve outcomes that are desirable and innovative.
4. Building of representational techniques
5. Writing individual design intents
6. Developing jury presentation skills

READING LIST/ REFERENCES

CO-PO mapped syllabi of B.Arch Course 2022-2023

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 to 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 : 2022-23	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	1 April 2023			
Exercise: Title	Chidambaram Oblique: Ritual and Everyday in a Temple Town								
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 along with taking complete responsibility of the studio assignments	90% to 95% attendance and visibly very participative along with sharing responsibilities of studio assignments	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 along with 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 technological 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 6

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

COURSE CODE	BARC 602	CREDITS	4 (3+1CP)
COURSE NAME	ALLIED DESIGN STUDIO 6	SESSIONAL MARKS	100
FACULTY	Noopur S, Neha Shah, Saurabh B, Apoorva I, Rutika P, Ketaki B,	EXAM SCHEME	NIL
CLASS DAY/TIME	100 MINUTES	NON-CLASS TIME	1 hour per week

PEDAGOGIC INTENT	<p>The intent is to train students to engage with the act of design as a response to the interconnected ecological systems of the site and its surroundings.</p> <p>To help the students become fully versed with the principles of grading to be capable of manipulating ground forms from a design point of view.</p>
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COURSE METHODOLOGY	<p>The Allied Design Studio 6 engages the students to propose interventions at the intersections of ecology and landscape architecture.</p> <p>The initial part of the studio shall focus on equipping students with technical knowledge for understanding grading as a process of modification of existing landforms to accommodate new structures and circulation to ensure optimum functionality. It is a crucial process for the implementation of the designer's idea into a reality during the construction of designed landscapes. It requires a careful modulation of contours so that they support the integration of built with the site.</p> <p>For this part, there would be input lectures and students will be exploring model making as a medium to understand land modulations and surface hydrology and a series of drawings for the terrain analysis that would aid the grading process.</p> <p>The second part of the studio is structured to encourage students to select a 25-acre site in a distinct bio-geography in and around the city of Mumbai to masterplan and design an eco-sensitive. The project aims to inculcate a thorough sensitivity to understanding how human actions are constrained/ limited by the physical environment. The sites selected for the study are in Dahanu (chickoo orchards), Uttan (Quarry and communities), Pelhar Dham, and Charkop (mangrove and communities)</p> <p>The students will be working on-site studies in groups, the site characteristics are dictated by the complex interactions of the biotic and the abiotic entities inherent to the site. Observations and analysis based on these would immensely help in the decision-making processes on the planning and design of the site.</p> <p>The students will be introduced to the landscape analysis method for site planning -the 'Layer Cake Model' as proposed by Ian McHarg. Then, it is carefully 'overlayed' to identify landscape patterns and suitability.</p>
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The studio will then allow for a series of explorations that would encourage the students to objectively analyse the biocapacity of the site and propose a landscape architectural set of programmes with a minimal ecological footprint, which can then be detailed out to form a comprehensive landscape development masterplan supplemented by details.

There will be various input lectures in weeks of the process to aid students in understanding various aspects of Ecological landscape planning and self-sustaining commune.

LECT	DATE	TEACHING CONTENT
1	1.12.22	Introduction to The Project and Sites
2	8.12.22	Review of the identified sites and fixing on the area identified. Introduction to GIS and demonstration - Neha S
3	15.12.22	Review of the further study of sites and give them subgroups for further site suitability analysis. Lecture on spatial analysis Tool kit and Ecological site planning Tool kit. Showing them examples for the presentation.
4	22.12.22	Site compilation (Maps and extent of analysis and intervention) and review) discussion first cut. Lecture on case study examples of study and representations of analysis.
5	29.12.22	<i>Christmas break</i>
6	5.01.2023	Final study presentation of sites Lecture on Biocapacity and ecological footprint concept and program development) Start working on program development.
7	12.01.23	Discussion on - building scenarios and program development. Lecture on Building up a master plan, examples approaches and representation.
8	19.01.23	The final presentation of a program developed and introduction and beginning of a master plan. Lecture on case studies on Systems and approaches
9	26.01.23	<i>holiday</i>
10	2.02.23	The first cut of the master plan (hand drawn) + discussion
11	9.02.23	Fixing the master plan and spitting in groups to detail of each quadrant and program. Lecture on Planting Design Techniques and grading techniques
12	16.02.23	<i>Electives</i>
13	23.02.23	<i>KRMLS</i>
14	2.03. 23	Review of details of each program and design
15	9.03.23	Review of details of each program and design

CO-PO mapped syllabi of B.Arch Course 2022 -2023– 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)

16	16.03.23	Prefinal Jury
17	23.03.23	Desk crits
18	30.03.23	Final review/submission of the compiled drawings and master plan.

LEARNING OUTCOMES	<p>To introduce students to ways of seeing and documenting the landscape entities (abiotic +biotic) and the anthropogenic influences and their interdependencies (based on McHarg's Layer cake analysis).</p> <p>To enable students to discern natural processes and their inter-dependencies.</p> <p>To expose the students to ways of intervening in various bio-geographies in a sensitive manner.</p> <p>To help students formulate landscape programs that respond to the users, architectural programs, and site responses.</p>
READING LIST/ REFERENCES	<p>Design with Nature, Ian L McHarg</p> <p>Toward an Urban Ecology, Kate Orff</p> <p>Digital Drawing for Landscape: Bradley Cantrell</p> <p>Landscape Architecture in India, A Reader: Mohammad Shaheer (Editor), Geeta Wahi Dua (Editor), Adit Pal (Editor)</p> <p>Tracing Narratives: Indian Landscape Design- LEAF, Ahmedabad</p> <p>Landscape Site Grading Principles Grading with Design in Mind – Bruce G. Sharky</p>

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 intent is to train students to engage with the act of design as a response to the interconnected ecological systems of the site and its surroundings. To help the students to become fully versed with the principles of grading to be capable of manipulating ground forms from a design point of view.

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 expose the students to ways of intervening in various bio-geographies in a sensitive manner.
CO4	To help students formulate landscape programs that respond to the users, architectural programs, and site responses.

Rubrics:

Year of Assessment: 2022-2023	USM's Kamla Raheja Vidyaniidhi 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 (CP)				
Exercise: Title	Ecological landscape Planning								
Exercise Note / Task	<p>The exercise is structured to encourage students to select a 25-acre site in a distinct bio-geography in and around the city of Mumbai to masterplan and design an eco-sensitive. The project aims to inculcate a thorough sensitivity to understanding how human actions are constrained/ limited by the physical environment. The sites selected for the study are in Dahanu (chickoo orchards), Uttan (Quarry and communities), Pelhar Dham, and Charkop (mangrove and communities).</p> <p>The students will be working on-site studies in groups, the site characteristics are dictated by the complex interactions of the biotic and the abiotic entities inherent to the site. Observations and analysis based on these would immensely help in the decision-making processes on the planning and design of the site. The students will be introduced to the landscape analysis method for site planning -the 'Layer Cake Model' as proposed by Ian McHarg. Then carefully 'overlayed' in order to identify landscape patterns and suitability.</p>								
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									
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 analyse the data collected	Showcasing fair insights using adopted tools, and frameworks to develop a 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 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

				and design intent	and design intent	and design intent	and design intent		
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 “PG 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 expose the students to ways of intervening in various biogeographies in a sensitive manner.	3	3	2	3	2	2	3	3	
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

COURSE CODE	BARC 604	CREDITS	03/02
COURSE NAME	Theory and Design of Structures 6	SESSIONAL MARKS	50
FACULTY	Bhargav K., Mamta P., Jayashree C	EXAM SCHEME	EXTERNAL
CLASS DAY/TIME	Saturday 9.40 – 11.20	NON-CLASS TIME	2 hours per week

PEDAGOGIC INTENT –

To develop solid background on the principles of structural design with emphasis on concepts in analysis and hands-on RCC design at element and structure level and to develop an understanding of real-world RCC design challenges.

COURSE METHODOLOGY – Lectures and case studies

LECT	DATE	TEACHING CONTENT
1	26/11/22	Basic design concepts, limit states method of design, behaviour of RC beams in flexure
2	03/10/22	Design of RC beams for flexure
3	10/12/22	Design of RC beams for flexure
4	17/12/22	Design of RC beams for flexure, behaviour and design of RC slabs
5	07/01/23	Theory of flat plates, flat slabs and its comparison with conventional beam supported slabs
	14/01/2023	HOLIDAY
6	21/01/23	Theory of flat plates, flat slabs and its comparison with conventional beam supported slabs
7	28/01/23	Design of RC Columns
8	04/02/23	Design of RC Columns
9	11/02/23	Basics and design of RC footings
10	18/02/23	Basics and design of RC footings
11	25/02/23	Pre-cast concrete
12	04/03/23	Steel-concrete composite construction
13	11/03/23	Concrete technology
14	18/03/23	Concrete technology
15	25/03/23	Concrete technology

LEARNING OUTCOMES

By the end of this course, students are expected to know the basics of concrete technology, understand the behaviour of various members in a RCC structure and work out their preliminary sizes, understand the fundamentals of RCC element design, and know the suitability and applications of various slab systems.

READING LIST/ -

Reinforced Concrete Design by S. Pillai and D. Menon, Reinforced Concrete: Mechanics and Design by J. Wight, J. MacGregor

CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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: 2022-2023	USM's Kamla Raheja Vidyandhi 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 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.	Most of the data to be collected from reliable 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.	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 incorporating the minimum requirements	Arbitrary 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	Well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent	Very well curated outstanding analytical drawings and clarity in explaining the concept, architectural design intent and	Excellent curation using outstanding analytical drawings and clarity in explaining the concept, architectural	Very Good curation using outstanding analytical drawings and clarity in explaining the concept and	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	Arbitrary and Adhoc Inquiry

	tectonic articulation that allows for the identified architectural expression.	and the tectonic articulation that allows for the identified architectural expression.	the tectonic articulation that allows for the identified architectural expression.	design intent and the tectonic articulation.	architectural design intent.	architectural design intent.	architectural design intent.		
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

COURSE CODE	BARC 605	CREDITS	3
COURSE NAME	HUMANITIES (2022-23)	SESSIONAL MARKS	50
FACULTY	Hussain, Shweta	EXAM SCHEME	50 MARKS WRITTEN PAPER
CLASS DAY / TIME	Tuesday 1.20 pm	NON-CLASS TIME	2 hours

COURSE DESCRIPTION	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.
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PEDAGOGIC INTENT / LEARNING OBJECTIVES	<p>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.</p> <p>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.</p> <p>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.</p>
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COURSE 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.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS
1	8 th Nov	Introduction: the method of social history	
2	15 th Nov	Sewers: caste, class and segregation	
3	23 rd Nov		
4	30 th Nov	Boundaries: political geography of the Mumbai region	
5	7 th Dec		
6	14 th Dec	Migration: scrambling in a city of dreams	
7	21 st Dec		
8	3 rd Jan	Riots: wages of violence	
9	10 th Jan		
10	17 th Jan	Congestion: the unending struggle for space and time	
11	24 th Jan		
12	31 st Jan	Mega-projects: (dis)connecting people and places	
13	7 th Feb		
14	14 th Feb	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.
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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 delay 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: 2022-23	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		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 minimal understanding of the case, somewhat able to identify determinants	An minimal understanding of the case,	Little or no understanding 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% attendance or more, active participation in class and excellent conduct overall	90% attendance or more, good participation in class and very good conduct overall	80% - 90% attendance, active participation in class and excellent conduct overall	80% - 90% attendance, good participation in class and very good conduct overall	70% -80% attendance, active participation in class and excellent conduct overall	70% -80% attendance, good participation in class and very good conduct overall	50% - 70% attendance	50% - 70% attendance	50% attendance 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

COURSE CODE	BARC 607	CREDITS	2(Hist) + 2(Arch Theory) + 2(Tech Studio)
COURSE NAME	Architectural Representation & Detailing 6	SESSIONAL MARKS	Internal – 100 (30+30+40)
FACULTY	Ginella George, Sarah George, Rutika Parulkar, Rohan Shivkumar, Karan Rane, Mamta Patwardhan, Minal, Jamshid, Ainsley, Kimaya, Shantanu, Dyanesh, Neeraj and Nemish	EXAM SCHEME	External - 100
CLASS DAY/TIME	Monday / 1.20-3.00 pm Friday / 1.20-3.00 pm Wednesday/ 8.00-11.20am	NON-CLASS TIME	

Course 1: History

COURSE CODE	BARC 607	CREDITS	2
COURSE NAME	Architectural Representation & Detailing (History)	SESSIONAL MARKS	30
FACULTY	Ginella George, Sarah George, Rutika Parulkar	EXAM SCHEME	NIL
CLASS DAY/TIME	Friday / 1.20 – 3.00pm	NON-CLASS TIME	

PEDAGOGIC INTENT	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.
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COURSE METHODOLOGY	The History of Architecture course at the KRVA 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 taxonomical method of categorizing and describing the physical aspects of the historical object to include the purpose of its making.
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LECT	DATE	TEACHING CONTENT
Week 1	25.11.2022	Introduction
Week 2	02.12.2022	Silk route: Connecting Asia with Europe
Week 3	09.12.2022	Silk route: Connecting India with the rest of the world
Week 4	16.12.2022	Explorations: Quest for new territories - Portugal Spain
Week 5	23.12.2022	Trade relations and conceptualisations of space
Week 6	30.12.2022	Christmas break
Week 7	06.01.2023	Planning and the making of the urban
Week 8	13.01.2023	City and the countryside
Week 9	20.01.2023	Renaissance city
Week 10	27.01.2023	Assignment review

Week 11	03.02.2023	Change of city form
Week 12	10.02.2023	Trade: consolidation of powers and the creation of colonies
Week 13	17.02.2023	Electives
Week 14	24.02.2023	KRMLS
Week 15	03.03.2023	Colonies and ‘progress’ - infrastructure and urban development
Week 16	10.03.2023	Institutions of colonial administration and typologies
Week 17	17.03.2023	Assignment
Week 18	24.03.2023	Assignment
Week 19	31.03.2023	Assignment

LEARNING OUTCOMES	Students will be able to understand how transformed economies impacted the growth of cities They will explore some processes of the production of the built object in relation to city form and development. The course will equip students to read parallel ideas in creation of cities, larger global events and formal explorations of architecture through historical examples.
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READING LIST/ REFERENCES	<ol style="list-style-type: none"> 1. Spiro Kostoff- City Assembled 2. Spiro Kostoff- City Assembled 3. AEJ Morris- History of Urban Form 4. Spiro Kostof- History of architecture-Setting and rituals 5. Bannister Fletcher-History of Architecture 6. F. Ching, M. Zarzombek, V. Prakash - A global history of architecture
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Course 2: Arch Theory

COURSE CODE	BARC 607	CREDITS	2
COURSE NAME	Architectural Representation & Detailing (Arch Theory)	SESSIONAL MARKS	30
FACULTY	Rohan Shivkumar, Karan Rane, Mamta Patwardhan	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 1.20 – 3.00pm	NON-CLASS TIME	

PEDAGOGIC INTENT	This is the last module of a 4-semester course that started in the 2nd Semester that was examining the parallel evolution of modernity and architecture across the world from the late 17th Century to contemporary times. IN this semester we look at the concerns of architecture from the later 60s to today. As such it covers some predominant movements and themes like Post Modernism, new Urbanism, Deconstruction, the Digital Turn, the Ecological Turn. We hope that it will sketch out the landscape within which contemporary architectural practice is placed.
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COURSE METHODOLOGY	This is primarily a lecture and discussion-based course. The students are asked to submit a short essay on a topic of their choice.
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LECT	DATE	TEACHING CONTENT
Week 1	21/11/22	The Crisis of Meaning / Robert Venturi, Charles Jencks
Week 2	28/11/22	The Presence of the Past / Aldo Rossi
Week 3	05/12/22	The Uses of Tradition / Leon and Rob Krier, New Urbanism
Week 4	12/12/22	Syntax - 5 Architects / Eisenman, Derrida
Week 5	19/12/22	Event - Tschumi / Libeskind

Week 6	02/01/23	Programme - Rem Koolhaas / MVRDV
Week 7	09/01/23	The Signature / Frank Gehry, Zaha Hadid, Coop Himmelblau
Week 8	16/01/23	Post Structural Form - Deleuze, Parametrics, Gregg Lynn, Morphosis
Week 9	23/01/23	Critical Regionalism - Aga Khan Awards, Frampton, Correa, Doshi
Week 10	06/02/23	The Cult of Beauty - Rasa, WabiSabi
Week 11	13/02/23	Subaltern Voices - Spivak, Informality, Ambedkar Park
Week 12	27/02/23	PostHuman Landscapes- New Ecologies
Week 13	06/03/23	PostHuman Landscapes - Digital Realities
Week 14	13/03/23	The Structure of Practice - SOM, Rural Studio
Week 15	20/03/23	Architecture post 1990s in India - Contemporary Practices

LEARNING OUTCOMES	To be exposed to the history of ideas in the twentieth century through architecture The ability to critically understand architectural practice within the given cultural and historical context.
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Course 3: Tech Studio

COURSE CODE	BARC 607	CREDITS	2
COURSE NAME	Architectural Representation & Detailing (Tech Studio)	SESSIONAL MARKS	30
FACULTY	Minal Y., Jamshid B., Ainsley L., Kimaya K., Shantanu P., Dyanesh M., Neeraj V., Nemish S.	EXAM SCHEME	External -100
CLASS DAY/TIME	Wednesday / 8.00-11.20am	NON-CLASS TIME	

PEDAGOGIC INTENT	The aim of Technology studio is to manifest the understanding of ‘making’ in the process of designing such that the design and technology are perceived as supportive and engaging processes and not as two separate linear processes. Technology studio is imagined as a place where the student’s understanding of various systems and their inter-relationship, material and its sensitive usage, environment, and techniques of construction culminates in a comprehensive set of resolved drawings. The studio intends 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.
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COURSE METHODOLOGY	Studio is largely scheduled into two parts – one-part deals with larger formulation of their design ideas into spatial and structural organization and other part deals with detailing the elements of the designs and informing the larger idea as required. Series of smaller design exercises of various elements of a building are planned that will assist in evolving details.
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LECT	DATE	TEACHING CONTENT
Week 1	30/11/22	Design development of their 5 th sem. Design
Week 2	7/12/22	Location/site/setting out plan discussion
Week 3	14/12/22	Centre line/foundation plan discussion
Week 4	21/12/22	Ground floor plan submission
Week 5	28/12/22	Winter Break
Week 6	4/01/23	Upgradation of marks + studio
Week 7	11/01/23	All plans submission

Week 8	18/01/23	Upgrading marks
Week 9	25/01/23	Sections and elevations
Week 10	1/02/23	Wall section detail
Week 11	8/02/23	Advanced floor/staircase/any interesting element detail
Week 12	15/02/23	Site services/toilet block detail
Week 13	22/02/23	ANNUALS
Week 14	1/03/23	Synthesis + Final Portfolio submission
Week 15	8/03/23	Holi Holiday
Week 16	15/03/23	Condonation

LEARNING OUTCOMES	At the end of the course the student’s comprehension of the nuances of spatial and structural integration while planning, detailing and material understanding is seen through their resolved set of well represented working drawings based on their design as well as technical knowledge acquired by them.
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CO-PO mapped syllabi of B.Arch Course 2022-2023_ 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 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 6 **Sem: 6** **Third Year**
Course Code: BARC 607

Course 1: Architectural Representation and Detailing 6 (History) **Sem: 6** **Third 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 2: Architectural Representation and Detailing 6 (Arch Theory) **Sem: 6** **Third Year**

Course Objectives:

- To understand architectural form through its tectonic and physical aspects.
- To analyse an architectural object.

Course 3: Architectural Representation and Detailing 6 (Tech Studio) **Sem: 6** **Third Year**

Course Objectives:

- To understand architectural form through its tectonic and physical aspects.
- To analyse an architectural object.

Course Outcomes (CO): (Combined Course outcomes for Arch Theory, History and Tech Studio)

Course Outcome (Co)	Description
CO1	Understanding the relationship between spatial, temporal and intellectual contexts and architectural form
CO2	Applying critical thinking skills to evolve analytical frameworks to read architecture and other cultural artefacts
CO3	Understanding and analysing the built object to dissect architectural history through various spectrums of thoughts and responses.
CO4	Understanding the ideas and concepts that have shaped architectural thinking
CO5	Students are enabled to develop and resolve without compromising their design ideas to match the program requirements and operations.

Rubrics 1 (History):

Year of Assessment: 2022- 2023	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 6	ARD 6 (History)	BARC 607	30	30	2 ARD				
Exercise: Title	Writing an Architectural History								
Exercise Note / Task	Students will select a structure from their neighbourhood or city and attempt to write a history that goes beyond the information that is available beyond secondary sources. They will have to construct a history based on their engagement with and memory of the object.								
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	Extremely articulate in framing the area for inquiry. 2) Very clear structure for presentation. 3) Well researched	Very articulate in framing the area for inquiry. 2) Clear structure for presentation. 3) Well researched	Clear and Articulate in framing the area for inquiry. 2) Well researched structure for presentation.	There is clarity in the area of inquiry 2) Research and structure for presentation is fairly good.	The area of inquiry is fairly good 2) Research and structure for presentation can be better.	The area of inquiry is good 2) Research and structure for presentation is fair.	There is clarity in the area of inquiry 2) Research and structure for presentation is found lacking	There is potential for an area of inquiry but needs more clarity. 2) No research and structure for presentation	on submission
Participation in Studio	tends more than 90% of total classes	tends 86 to 90% of total classes	tends 76 to 85 % of total classes	tends 71 to 75 % of total classes	tends 66 to 70 % of total classes	tends 61 to 65 % of total classes	tends 56 to 60 % of total classes	tends 51 to 55 % of total classes	tends less than 50 % of total classes

Rubrics 2 (Arch Theory):

Year of Assessment: 2022- 23	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem: 3rd Year/ Sem 6	Subject: Professional Practice III	Subject Code	University Subject Code	Sessional Marks: 100	Exercise 01: Marks out of 100	Credits 2	Date of submission	Upgrade 01	Upgrade 02
Exercise: Title		Delaying the Architectural Design to understand Syntax							
Exercise Note / Task		Diagramming elements of Syntax in the 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									
Lenses of inquiry	Thorough understanding of architectural ideas and their influences	Very good understanding of architectural ideas and their influences	Comparatively good understanding of architectural ideas and their influences	Good understanding of architectural ideas and their influences	Fair understanding of architectural ideas and their influences	Satisfactory understanding of architectural ideas and their influences	Poor understanding of architectural ideas and their influences	Very Poor understanding of architectural ideas and their influences	Not performed
Ability demonstrated to extract critical information from the study	Excellent research and exploration of syntax and aspects of regionalism in the current design program	Very good research and exploration of syntax and aspects of regionalism in the current design program	Comparatively good research and exploration of syntax and aspects of regionalism in the current design program	Good research and exploration of syntax and aspects of regionalism in the current design program .	fairly done research and exploration of syntax and aspects of regionalism in the current design program	Satisfactory done research and exploration of syntax and aspects of regionalism in the current design program	Poorly done research and exploration of syntax and aspects of regionalism in the current design program	Very Poorly done research and exploration of syntax and aspects of regionalism in the current design program	Not performed
Quality and representation of the final output viz.the drawing	Excellent	Very good	Comparatively good	Good	Fair	Satisfactory	Poor	Very poor	Not performed
Course Ethics - 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

Rubrics 3 (Tech Studio):

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
Year of Assessment: 2023-2024									
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	Tech Studio		BARC 607	40		2			
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 well 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 integrate 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 of working drawings complete with details and BOQ report	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	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 Setup for Sem 6

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	Applying critical thinking skills to evolve analytical frameworks to read architecture and other cultural artefacts	3	0	0	2	0	2	3	1
CO3	Understanding and analysing the built object to dissect architectural history through various spectrums of thoughts and responses.	3	2	3	1	0	3	3	3
CO4	Understanding the ideas and concepts that have shaped architectural thinking	1	0	3	3	1	3	2	3
CO5	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

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

COURSE CODE	BARC 608	CREDITS	3
COURSE NAME	Architectural Building Services 6	SESSIONAL MARKS	50
FACULTY	Minal. Y. Mamta P. Ahana S.	EXAM SCHEME	50
CLASS DAY/TIME	Wednesday 1.20 – 3.00	NON-CLASS TIME	2 hours per week

PEDAGOGIC INTENT – Safety is of paramount importance while planning a building and it must be seen in the spatial and structural organization of the building. Along with this factor comfort is another factor that is most sought-after aspect in planning. The third-year level focuses primarily on comfort, and safety in both semesters. 5th semester dealt with visual and acoustical comfort while the 6th semester deals with safety and mobility factors.

The semester deals with safety factor to be planned in a building from natural as well as manmade hazards specially fire hazards. The intent of the course is to enable inherent understanding of safety parameters like detection systems, alarm systems, information systems, various passive as well as mechanized escape systems, firefighting systems, advanced water supply system required for the same and finally the byelaws that govern the building.

COURSE METHODOLOGY – Lectures and case studies

LECT	DATE	TEACHING CONTENT
1	30/11/22	Revision lecture on public toilet design and the site services
2	7/12/22	Firefighting - byelaws, passive strategies in planning for firefighting.
3	14/12/22	Active Firefighting systems
4	21/12/22	Simulation practices in FF
5	28/12/22	Winter Break
6	4/01/23	Water supply systems for high rise buildings.
7	11/01/23	Elevator
8	18/01/23	Elevator
9	25/01/23	Escalator + Submission (students will submit their PPT soft)
10	1/02/23	Case study presentation by faculty
11	8/02/23	Presentation by Students
12	15/02/23	Studio on FF (technology studio)
13	22/02/23	ANNUALS
14	1/03/23	Revision class + technology studio exercise assistance.
	8/03/23	Holi Holiday

	15/03/23	
	22/03/23	Gudi Padwa Holiday

LEARNING OUTCOMES – At the end of the course the students can understand the nuances of active and passive strategies for firefighting which also includes water supply and mobility planning within building. Understanding byelaws pertaining to firefighting are also inculcated to inform their building design.

READING LIST/ -

CO-PO mapped syllabi of B. Arch Course 2022-2023 – 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 de-layer 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: 2022-2023		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		
3 rd YR SEM 6	Arch. Building services		BARC 608	50		3	Multiple		
Exercise: Title		Fire Safety planning for their AD project							
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
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.		1			1		1	1	
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.	2	1			1		2	1	
CO3	To understand the advanced scientific and technical as well as sustainable know-how of water supply systems in high-rises.			1	1	1		2	2	

COURSE CODE	BARC 620	CREDITS	2 CP
COURSE NAME	Tectonic Studies (College Projects)	SESSIONAL MARKS	50
FACULTY	George Jacob, Saurabh Barde, Anubhav Borgohain	EXAM SCHEME	NA
CLASS DAY/TIME	Monday 09:40 to 11:20	NON-CLASS TIME	

PEDAGOGIC INTENT	The course primarily intends to assist students individually to initiate and develop techniques or approaches for the design process. To identify influences and intents responsible in shaping and building design ideas. The Tectonics Studies is imagined to be a series of lectures and activities exploring Architecture and its making. The course is structured across four semesters through a series of sixty-four words highlighting the processes in the making of Architecture, its impacts on the socio-cultural landscapes and the value addition it offers at large. The course reveals the close proximity or influences between theory and technology, experience and built environments, intangible and tangible.
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COURSE METHODOLOGY	In order to achieve the expertise on developing a method for designing, it is imperative to conduct a critical reading of selected buildings and the processes employed by these respective architects. These cases will help articulate the outcomes of design decisions due to various influences that are direct and indirect, local and global, ethical and makeshift or functional and decorative. The entire duration of 16 + 16 weeks spanning across two semesters is proposed to address various themes or situations curated as lectures by faculty through case studies at the global and regional contexts. The students in groups of three will be given architectural interventions as case-study to analyse influences and choices made by architects. In the Third Year, the course will engage with five parameters that govern design decisions namely Beauty, Field, Time, Programme and Technology
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	14/11/22	Study Trip to Chennai		
2	20/06/22	Study Trip to Chennai		
3	28/11/22	Introduction to Tectonic Studies		
4	05/12/22	Lecture on Field - Faculty		
5	12/12/22	Lecture on Field – Student Group		
6	19/12/22	Lecture on Field – Student Group		
7	02/01/23	Lecture on Field – Student Group		
8	09/01/23	Lecture on Time - Faculty		
9	16/01/23	Lecture on Time– Student Group		

10	23/01/23	Lecture on Time– Student Group		
11	30/01/23	Lecture on Time– Student Group		
12	06/02/23	Lecture on Programme - Faculty		
13	13/02/23	Lecture on Programme – Student Group		
14	20/02/23	Lecture on Programme – Student Group		
15	27/02/23	Lecture on Programme – Student Group		
16	06/03/23	Lecture on Programme – Student Group		
17	13/03/23	Submission of the compilation as per format	Submission of 2nd part of Tectonics	25
18	20/03/23	Lecture on Urban Systems - Faculty		

LEARNING OUTCOMES	<ol style="list-style-type: none"> To help tackle and work with various influences that are direct and indirect, local and global, ethical and makeshift or functional and decorative. To curate individual design development To explore components responsible in achieving a holistic architectural building. To help realize the kit of parts that are interdependent in the final outcome
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READING LIST/ REFERENCES	
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COURSE CODE	BARC 602	CREDITS	4 (3+1CP)
COURSE NAME	ALLIED DESIGN STUDIO 6	SESSIONAL MARKS	100
FACULTY	Noopur S, Neha Shah, Saurabh B, Apoorva I, Rutika P, Ketaki B, Anubhav B	EXAM SCHEME	NIL
CLASS DAY/TIME	100 MINUTES	NON-CLASS TIME	1 hour per week

PEDAGOGIC INTENT	<p>The intent is to train students to engage with the act of design as a response to the interconnected ecological systems of the site and its surroundings.</p> <p>To help the students become fully versed with the principles of grading to be capable of manipulating ground forms from a design point of view.</p>
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COURSE METHOD OLOGY	<p>The Allied Design Studio 6 engages the students to propose interventions at the intersections of ecology and landscape architecture.</p> <p>The initial part of the studio shall focus on equipping students with technical knowledge for understanding grading as a process of modification of existing landforms to accommodate new structures and circulation to ensure optimum functionality. It is a crucial process for the implementation of the designer's idea into a reality during the construction of designed landscapes. It requires a careful modulation of contours so that they support the integration of the site.</p> <p>For this part, there would be input lectures and students will be exploring model making as a medium to understand land modulations and surface hydrology and a series of drawings for the terrain analysis that would aid the grading process.</p> <p>The second part of the studio is structured to encourage students to select a 25-acre site in a distinct bio-geography in and around the city of Mumbai to masterplan and design an eco-sensitive. The project aims to inculcate a thorough sensitivity to understanding how human actions are constrained/ limited by the physical environment. The sites selected for the study are in Dahanu (chickoo orchards), Uttan (Quarry and communities), Pelhar Dham, and Charkop (mangrove and communities)</p> <p>The students will be working on-site studies in groups, the site characteristics are dictated by the complex interactions of the biotic and the abiotic entities inherent to the site. Observations and analysis based on these would immensely help in the decision-making processes on the planning and design of the site.</p> <p>The students will be introduced to the landscape analysis method for site planning -the 'Layer Cake Model' as proposed by Ian McHarg. Then, it is carefully 'overlayed' to identify landscape patterns and suitability.</p> <p>The studio will then allow for a series of explorations that would encourage the students to objectively analyse the biocapacity of the site and propose a landscape architectural set of programmes with a minimal ecological footprint, which can then be detailed out to form a comprehensive landscape development masterplan supplemented by details.</p> <p>There will be various input lectures in weeks of the process to aid students in understanding various aspects of Ecological landscape planning and self-sustaining commune.</p>
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LECT	DATE	TEACHING CONTENT
1	1.12.22	Introduction to The Project and Sites
2	8.12.22	Review of the identified sites and fixing on the area identified. Introduction to GIS and demonstration - Neha S
3	15.12.22	Review of the further study of sites and give them subgroups for further site suitability analysis. Lecture on spatial analysis Tool kit and Ecological site planning Tool kit. Showing them examples for the presentation.
4	22.12.22	Site compilation (Maps and extent of analysis and intervention) and review) discussion first cut. Lecture on case study examples of study and representations of analysis.
5	29.12.22	Christmas break
6	5.01.2023	Final study presentation of sites Lecture on Biocapacity and ecological footprint concept and program development) Start working on program development.
7	12.01.23	Discussion on - building scenarios and program development. Lecture on Building up a master plan, examples approaches and representation.
8	19.01.23	The final presentation of a program developed and introduction and beginning of a master plan. Lecture on case studies on Systems and approaches
9	26.01.23	holiday
10	2.02.23	The first cut of the master plan (hand drawn) + discussion
11	9.02.23	Fixing the master plan and spitting in groups to detail of each quadrant and program. Lecture on Planting Design Techniques and grading techniques
12	16.02.23	Electives
13	23.02.23	KRMLS
14	2.03.23	Review of details of each program and design
15	9.03.23	Review of details of each program and design
16	16.03.23	Pre Final Jury
17	23.03.23	Desk crits
18	30.03.23	Final review/submission of the compiled drawings and master plan.

LEARNING OUTCOMES	<p>To introduce students to ways of seeing and documenting the landscape entities (abiotic +biotic) and the anthropogenic influences and their interdependencies (based on McHarg's Layer cake analysis).</p> <p>To enable students to discern natural processes and their inter-dependencies.</p> <p>To expose the students to ways of intervening in various bio-geographies in a sensitive manner.</p> <p>To help students formulate landscape programs that respond to the users, architectural programs, and site responses.</p>
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READING LIST/ REFERENCES	Design with Nature, Ian L McHarg Toward an Urban Ecology, Kate Orff 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 Landscape Site Grading Principles Grading with Design in Mind – Bruce G. Sharky
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – College Projects 6

Program Educational Objective (PEOs): B.Arch.

- 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.
- To enable students with design skills that are able to navigate the space between the analytical and the intuitive. (Analytical / Intuitive)
- To enable students with design skills that are able to navigate the space between the abstract and the concrete. (Abstract / Concrete)
- To challenge students to evolve empathy and understanding to cultures outside of their own comfort zones. (Self / Other)
- To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
- To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
- To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
- 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).

Programme-Specific Outcomes (PSOs):

- The course primarily intends to assist students individually to initiate and develop techniques or approaches for the design process. To develop the expertise consciously.
- To identify influences and intents responsible in shaping and building design ideas.
- The course reveals the close proximity or influences between theory and technology, experience and built environments, intangible and tangible.

POs for UG programs: Tectonics Studies 6

Programme Outcomes	<ul style="list-style-type: none"> • The course primarily intends to assist students individually to initiate and develop techniques or approaches for the design process. • The programme is prepared to develop the expertise consciously. To identify influences and intents responsible in shaping and building design ideas. • The Tectonics Studies is imagined to be a series of lectures and activities exploring Architecture and its making. The course is structured across four semesters through a series of sixty-four words highlighting the processes in the making of Architecture, its impacts on the socio-cultural landscapes and the value addition it offers at large. • The course reveals the close proximity or influences between theory and technology, experience and built environments, intangible and tangible.
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Course: College Projects 6

• **Course Code: BARC 620**

Sem 6

Year -Third Year

Course 1: Tectonics Studies 6

Course Objectives:

- To conduct a critical reading of selected buildings and the processes employed by these respective architects
- To help articulate the outcomes of design decisions due to various influences that are direct and indirect, local and global, ethical and makeshift or functional and decorative.

Course 2: Allied Design 6

Course Objectives:

- The intent is to train students to engage with the act of design as a response to the interconnected ecological systems of the site and its surroundings.
- To help the students to become fully versed with the principles of grading to be capable of manipulating ground forms from a design point of view.

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 making of an architectural object through details, material, structure and region
CO2	Analysing the expression of an architectural object in the urban context
CO3	To sensitize students to the nuances of open spaces of varied scales from Regional - large scale to small space analysis.
CO4	To expose the students to ways of intervening in various bio-geographies in a sensitive manner.
CO5	To help students formulate landscape programs that respond to the users, architectural programs, and site responses.

Rubrics

Year of Assessment :	USM's Kamla Raheja Vidyandhi 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 6	Tectonics Studies 6		BARC 620	50		2 CP			
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									
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
Critical analysis of case-studies with suitable representation technique	Experimental representation to critique with new ways of 3d modelling, drawings and diagramming	Experimental mode of representation involving model making, drawings and diagramming	Multimedia mode of representation involving model making, drawings and diagramming	Very Comprehensive representation made with impressive use of modes	Comprehensive representation made with mixed modes	Somewhat comprehensive representation made with appropriate modes	Well represented cases with attempt to use appropriate modes of representation	Basic representation barely touching on a comprehensive analysis	Below average to almost no attempt for representation and critique
Compilation of the study into the prescribed	New ways of compiling the study with themes	Professional level publication compilation	Outstanding compilation of the study	Excellent compilation of the study	Extremely well readable compilation	Very comprehensively readable compilation	Easily readable compilation of the study	Somewhat readable compilation	Barely readable compilation of

format of the studio		on of the study			tion of the study	n of the study		ion of the study	the study
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Rubrics:

Year of Assessment: 2022-2023	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	
THIRD YEAR - SEM 6	Allied Design	BARC 602	100	100	1 (CP)				
Exercise: Title	Ecological landscape Planning								
Exercise Note / Task	<p>The exercise is structured to encourage students to select a 25-acre site in a distinct bio-geography in and around the city of Mumbai to masterplan and design an eco-sensitive. The project aims to inculcate a thorough sensitivity to understanding how human actions are constrained/ limited by the physical environment. The sites selected for the study are in Dahanu (chikoo orchards), Uttan (Quarry and communities), Pelhar Dham, and Charkop (mangrove and communities).</p> <p>The students will be working on-site studies in groups, the site characteristics are dictated by the complex interactions of the biotic and the abiotic entities inherent to the site. Observations and analysis based on these would immensely help in the decision-making processes on the planning and design of the site. The students will be introduced to the landscape analysis method for site planning -the 'Layer Cake Model' as proposed by Ian McHarg. Then carefully 'overlayed' in order to identify landscape patterns and suitability.</p>								
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 analyse the data collected	Showcasing fair insights using adopted tools, and frameworks to develop a 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 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 Ad Hoc 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 "PG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understanding the making of an architectural object through details, material, structure and region	3	3	3	1	0	3	3	2
CO2	Analysing the expression of an architectural object in the urban context	3	3	3	2	1	3	3	3
CO3	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
CO4	To expose the students to ways of intervening in various bio-geographies in a sensitive manner.	3	3	2	3	2	2	3	3
CO5	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

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

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.

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 VII 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	Allied Design Studio UD: Ecologies + Mapping BARC 702 4ALD Aneerudha Manoj Aditya Karan Swapnil K Ankush	Architectural Design Studio BARC 701 4AD Shantanu P Manisha A Manoj P Nemish Karan Charvi.M Sudipta Iyer Rujuta Mody	Technology Studio BARC 703 1 cons stu+ 4 /BARC 707 ARD =5 Mamta Bhavin N Vikram Minal Dharmesh Faculty Saurabh B		Architectural Design Studio BARC 701 4AD Shantanu P Manisha A Manoj P Nemish Karan Charvi.M Sudipta Iyer Rujuta Mody	Theory of Structures BARC 704 3TOS Curated Lectures Vikram
8.50 - 9.40						
9.40 - 10.30						
10.30 - 11.20						
11.20 - 12.00	B R E A K					
12-00-12.50	Technology Lecture 1 (ABC) Dharmesh Vikram	Technology Studio	Technology Lecture 1 (ABS) Minal Mamta	Research Methods (CP) Karan Sonal	ENCOUNTERS	
12.50 - 1.20	L U N C H B R E A K					
1.20 - 2.10	Technology Lecture 1 (ABC) BARC 703 3ABC Dharmesh Vikram	Situating Practice Theory BARC 710/BARC 701 1PP+1ARD Nemish Rutika	Technology Lecture 2 (ABS) BARC 708 3ABS Minal Mamta	Research Methods (CP) BARP 720 3CP Karan Sonal	Situating Practice BARC 710 2PP Mamta Karan R	
2.10 - 3.00						
33+3(Electives)= 36 credits	7	6	8	3	6	3

COURSE CODE	BARC 701	CREDITS	8
COURSE NAME	Architectural Design Studio 7	SESSIONAL MARKS	200
FACULTY	Manoj P, Shantanu P., Karan R, Manisha A, Nemish S., Charvi M., Sudipta I., Rujuta m	EXAM SCHEME	Sessionals and Viva
CLASS DAY/TIME	Tuesday and Friday, 8.00 to 11.20	NON-CLASS TIME	

PEDAGOGIC INTENT	<p>While most of us are locked indoors navigating everything from basic essentials to our personal desires through a mediated virtual environment, the world outside seems a distant reality. We know that this is only an apparition. It is not surprising then that we find ourselves observing the space around us with acute attention. Our homes, our terraces, our backyards and gardens and our immediate neighbourhoods, have become predominant geographies of our bodily existence. No one thought that we would be here after a year and half, and yet here we are forced to reconcile with the reality that our neighbourhoods hold key positions in our urban systems.</p> <p>This studio also attempts a nuanced look at the neighbourhoods that we live in and attempts to identify and create potential changes that make a safer surrounding for all. We acknowledge that creating a safer neighbourhood involves taking cognizance of the macro as well as the micro impacts of/on our immediate surroundings. This meant looking at the transformation in neighbourhood spaces of play, exercise, learning, caring, entertainment, shopping, etc during a lockdown. Where and in what kind of spaces do these desires get manifested? How do we imagine the future use of public spaces in relation to public health, social interactions, healing? How do macro level infrastructures become significant spaces of public within our neighbourhoods?</p> <p>We begin by asking what our neighbourhood is. One common definition says that neighbourhoods are walk able areas around your house, while another definition uses number of people to define. In planning history, the neighbourhood is a unit of planning that is imagined as a residential zone. A space historically, in the early industrialised, gendered and zoned city, that was reserved for housing, women, children and the elderly, where men return from their zones of work in the city; but for most of us the neighbourhood is a colloquial space, a lived space. Not bound by specific boundaries, rather drawn out in the vectors of our everyday lives-it is a habitus generated out of everyday speech, acts, behaviours, familiarity. It is generated out of acts of appropriation, possession, neighbourliness, growing up, friendships, play, growing old, telling stories, and gossip. Etc.</p>
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COURSE METHODOLOGY	<p>This year's 4th Year AD studio worked in tandem with the 4th year UD studio in so far as the identification and analysis of the test sites of the studio were concerned. The AD studio identified 15 neighbourhoods from the 80 odd neighbourhoods that the students came from as our test sites. The same neighbourhoods were analysed as part of the Urban Design Studio exercise where the student groups worked on creating what is called a neighbourhood report. The students were expected to work as teams of five working on one neighbourhood which was identified after a round</p>
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table discussion between the five students and the mentors. It was imperative that at least one student was currently a resident of the neighbourhood that was selected for the study. This student or group of students became the key neighbourhood reporters and were responsible for bringing ground information to the team. The others in the group helped in conducting extensive remote secondary investigations.

The first half (three weeks) of the studio focused on developing the hard and soft data of the neighbourhoods. Where primary data collection remained a challenge in the current scenario, students began with mining secondary data sets and building neighbourhood stories using video and phone calls. As time progressed and we are able to access certain neighbourhoods safely, one of the participants who belonged to the test neighbourhood became our chief neighbourhood reporter, bringing on ground, live information to the group.

The second part of the studio (three weeks) explored the making of a master plan that identifies design interventions at various scales within the test neighbourhood. The third part of the studio (7 weeks) was dedicated to designing the interventions from the scale of the building to its public interface at all the necessary scales, and to enable the master plan successfully integrated. At this stage the students were working independently on resolving and detailing their designs while using their larger group as a constant sounding board, and keeping in mind the entire scheme and its ambitions.

WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	07 and 10 June 2022	Introduction to the studio and to various sites		
2	14 and 17 June 2022	Site study begins. Followed by discussions.		
3	21 June, 24 June 2022	Site study continues and wraps up.		
4	28 June and 1 July 2022	Master plan work begins/ First review		
5	12 and 15 July 2022	Master plan work continues.		
6	19 and 22 July 2022	Master plan work wraps up.		
7	26 and 29 July 2022	Individual design begins.		
8	2 and 5 August 2022	Individual design continues/ mid-term review		
9	09 and 12 August 2022	Individual design continues.		
10	16 and 19 August 2021	Individual design continues.		
11	23 and 26 August 2021	Individual design continues		
12	30 August and 2 September 2022	Individual design continues/ pre final review		
13	6 and 09 September 2022	Individual design wraps up		
14	13 and 16 September 2022	Updating masterplan and placing individual designs on the masterplan		

15	20 and 23 September 2022	Collating the work for final review
16	27 September and 29 September 2022	Collating and finishing all work for the final review.
17	4 and 7 October 2022	Final Jury Week.

LEARNING OUTCOMES	The studio is imagined as a collaborative working space. Participants will be testing their individual ideas against the backdrop of a collective analysis which is built for the respective test neighbourhoods. This we hope will expose the participants to working at the scale of the urban area, keeping in mind the various systems and forces at play, while they design their buildings. How does the individual building become a stimulator of public space and how can design play a fundamental role in doing so. We will learn how to build a master plan and how to integrate good design within the master plan. This complexity of dealing with multiple scales and stakeholders will be a critical learning objective of the studio.
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READING LIST/ REFERENCES	
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – *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 **Sem 7**
Course Code: BARC 701 **Year 2021-22**
KRVIA Course Code: 7ADS088

Course Objectives:

While most of us are locked indoors navigating everything from basic essentials to our personal desires through a mediated virtual environment, the world outside seems a distant reality. We know that this is only an apparition. It is not surprising then that we find ourselves observing the space around us with acute attention. Our homes, our terraces, our backyards and gardens and our immediate neighbour-hoods, have become predominant geographies of our bodily existence. No one thought that we would be here after a year and half, and yet here we are forced to reconcile with the reality that our neighbourhoods hold key positions in our urban systems.

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: 2022-2023	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem 2022-2023: Sem 7	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	7ADS088	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

COURSE CODE	BARC 702	CREDITS	4ALD
COURSE NAME	Allied Design Studio 7 - Urban Design Studio	SESSIONAL MARKS	Internal – 100
FACULTY	Aneerudha Paul, Ankush Chandran, Manoj Parmar, Aditya Sawant, Karan Rane	EXAM SCHEME	NIL
CLASS DAY/TIME	Monday / 8.00 – 11.20am	NON-CLASS TIME	

PEDAGOGIC INTENT	The course aims at enabling the students to read, map and represent cities through various perspectives. Through the use of various frameworks for reading and analysing city form, the course would help students map complex urban fields within which they could imagine sensitive architectural interventions.
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COURSE METHODOLOGY	Lectures + Discussions
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LECT	DATE	TEACHING CONTENT
1	13/06/2022	
2	20/06/2022	Introductory lecture- appreciating the scale of the urban Lynch, Rossi, Cullen Perspective: Cartesian Geographies and Morphology
3	27/06/2022	Student presentations
4	4/07/2022	Lecture: Design of Cities, Edmund Bacon Perspective: History and Morphology
5	11/07/2022	Student presentations
6	18/07/2022	Student presentations
7	25/07/2022	Camillo Sitte, Gordon Cullen
8	1/08/2022	Student presentations
9	8/08/2022	Lecture: Jan Gehl, William Whyte Perspective: Behaviour, Semiotics and Place
10	15/08/2022	Student presentations
11	22/08/2022	Lecture: The Situationist City

		Perspective: Phenomenology and Psychogeography
12	29/08/2022	Working studio
13	5/09/2022	Working studio
14	12/09/2022	Submission of draft and discussion
15	19/09/2022	Final submission

LEARNING OUTCOMES	<ol style="list-style-type: none"> 1. Students learn to apply various frameworks of reading and analysing the urban, to their respective sites, and map/represent the same. 2. The students develop an appreciation of the urban in their design inquiries. They learn to situate their architectural design projects within a larger context of neighboring buildings and territories. 3. Students develop appropriate mapping techniques to capture and articulate the specific complexities of the individual sites.
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READING LIST/ REFERENCES	<ol style="list-style-type: none"> 1. Gehl, Jan. "Cities for People." Island Press, 2010. 2. Jacobs, Jane. "The Death and Life of Great American Cities." Random House, 1961. 3. Speck, Jeff. "Walkable City: How Downtown Can Save America, One Step at a Time." North Point Press, 2012. 4. Lynch, Kevin. "The Image of the City." MIT Press, 1960. 5. Montgomery, Charles. "Happy City: Transforming Our Lives Through Urban Design." Farrar, Straus and Giroux, 2013. 6. National Association of City Transportation Officials. "Urban Street Design Guide." Island Press, 2013. 7. Whyte, William H. "The Social Life of Small Urban Spaces." The Conservation Foundation, 1980. 8. Farr, Douglas. "Sustainable Urbanism: Urban Design With Nature." Wiley, 2008.
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – Allied Design Studio 7 - Urban Design Studio

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 Studio 7 - Urban Design Studio

Course Code: BARC 207

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	Equip students with the necessary skills to map complex urban fields, through a mapping and representation of the public realm of two cities – Indore and Kolhapur using appropriate techniques
CO2	Gain a thorough understanding of the various determinants of city form through lectures and discussions on seminal urban theories, historical trajectories, socio-economic situations, planning instruments and policies.

CO3	Understand the ways in which public realm is articulated and its relationship with private space.
CO4	Enable students to situate architectural interventions in a larger socio-cultural, political, economic and semiotic context, and take ethical positions, and take an ethical position on the nature of their individual interventions in the Architectural Design Studio.

Rubrics:

USM's Kamla Raheja Vidyaniidhi 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	Upgrade 1	Upgrade 2
FOURTH YEAR Sem 07	Urban Design Studio	BARC 207	BARC 207	100	50	4			
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									
Clarity of parameter chosen and mapping technique	Complete clarity of significance, innovative and self-generated mapping techniques	Complete clarity on selected parameter. Mapping techniques used are well-established and demonstrated techniques.	Complete clarity on selected parameter. Mapping techniques used are well-established and demonstrated techniques, used as is.	Excellent clarity on parameter. Mapping techniques used are well-established and demonstrated techniques, used as is.	Good clarity on parameter. Mapping techniques used are well-established and generic.	Good degree of clarity on parameter. Safe and established mapping techniques.	Fair degree of clarity in selection of parameter. Acceptable mapping technique.	Lack of clarity in selection of parameter. Inadequate mapping.	Severe lack of clarity in selection of parameter. Inappropriate mapping technique.
Rigour and detail in mapping	Extremely rigorous mapping	Rigorous mapping process	Rigorous mapping process	Good mapping process with	Good mapping process with	Good mapping process with	Mapping process with decent	Mapping process with bare	Unacceptable and irrelevant

	process, very large sample of data and observations. A large variety of conditions and situations mapped.	with a moderately large sample of data and observations. Moderate variety of conditions and situations mapped	with a moderate sample of data and observations. Some Variety of conditions and situations mapped	a moderate sample of data and observations. Fair variety of conditions and situations mapped	a moderate sample of data and observations. Acceptable variety of conditions and situations mapped	an acceptable sample of data and observations. Acceptable variety of conditions and situations mapped	sample of data and observations. Some variation in conditions and situations mapped.	minimum sample of data and observations. Few variations in conditions and situations mapped.	mapping process with very limited sample of data and observations. No variation in conditions and situations mapped.
Representation techniques used and quality of drawings	Exceptional quality of drawings and innovative representation techniques.	Excellent quality of drawings and representation techniques.	Excellent quality of drawings and representation techniques.	Excellent quality of drawings and representation techniques.	Very good quality of drawings and representation techniques.	Good quality of drawings and representation techniques.	Fair quality of drawings and representation techniques.	Poor quality of drawings and representation techniques.	Unacceptable quality of drawings and representation techniques.

COPO Mapping Setup for Sem 7

CO-PO mapping for a course of "Theory and Design of Structures 7"									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	Equip students with the necessary skills to map complex urban fields, through a mapping and representation of the public realm of two cities – Indore and Kolhapur using appropriate techniques	3	3	3	2	3	3	2	2
CO2	Gain a thorough understanding of the various determinants of city form through lectures and discussions on seminal urban theories, historical trajectories, socio-economic situations, planning instruments and policies.	3	3	3	2	3	3	2	2
CO3	Understand the ways in which public realm is articulated and its relationship with private space.	3	3	3	2	2	2	3	1
CO4	Enable students to situate architectural interventions in a larger socio-cultural, political, economic and semiotic context, and take ethical positions, and take an ethical position on the nature of their individual interventions in the Architectural Design Studio.	3	3	3	2	2.6	0	1	3

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

COURSE CODE	BARC 703	CREDITS	3
COURSE NAME	Architectural Building Construction & Materials	SESSIONAL MARKS	50
FACULTY	Vikram., Dharmesh	EXAM SCHEME	Theory exam 50
CLASS DAY/TIME	Monday – 12.00 -12.50, 1.20- 3.00.	NON-CLASS TIME	

PEDAGOGIC INTENT - 1. Exploring concerns like seismic stability, ecological footprint of construction and energy consumption.

2. 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.

3. Initiate the students into Analytical frameworks of building sciences- both physical as well as digital.

4. Familiarise and demonstrate a submission of their regulatory processes within which the production of buildings lies.

5. Explore ‘multidisciplinary overlaps’

COURSE METHODOLOGY - Theory Lectures

LECT	DATE	TEACHING CONTENT
1	13/06/2022	Geo-hydrology aspects of a site- Topography, Drainage patterns fundamentals
2	20/06/2022	Design of Basements
3	27/06/2022	Basement water proofing
4	4/07/2022	Deep foundations
5	11/07/2022	Fundamentals of Seismic Designs I
6	18/07/2022	Fundamentals of Seismic Designs II
7	25/07/2022	Elective week
8	1/08/2022	Mid Term evaluation
9	8/08/2022	High Rise Structures Planning & Design
10	15/08/2022	High Rise Structures - Construction Advances: Timber High Rises
11	22/08/2022	Wind Impacts in High-rises and Envelope design
12	29/08/2022	Infrastructure Construction and Hazards

13	5/09/2022	Infrastructure Construction and Hazards
14	12/09/2022	Revision
15	19/09/2022	Test

LEARNING OUTCOMES -
 To develop holistic understanding of high rise structures in response to stability
 To analyse and understand various environmental factors affecting a structure.
 To understand substructure as well as superstructure in response to environmental factors and acting on the impacts

READING LIST

CO-PO mapped syllabi of B.Arch Course 2021-2022 – *Architectural Building Construction 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 recognise 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 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	
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: 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		
21-22 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
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COURSE CODE	704	CREDITS	3
COURSE NAME	Theory and Design of Structures	SESSIONAL MARKS	100
FACULTY	Vikram	EXAM SCHEME	NIL
CLASS DAY/TIME	09:40 - 11:20	NON-CLASS TIME	

PEDAGOGIC INTENT Developing and understanding of the kind of structural systems that are Starting from the foundations to understanding the structural skeleton o

COURSE 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.

LECT	DATE	TEACHING CONTENT
1	18.06.2022	Introduction to Deep foundations. Study of Geotechnical investigation with respect to site.
2	25.06.2022	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.
3	02.07.2022	Discussion on pile design and its key aspects. What are the thumb rules for design approach? Illustrate it with an exercise.
4	09.07.2022	Design and analysis through solving numericals.
5	16.07.2022	Introduction to retaining walls and basement walls. Design and analysis through solving numericals.
6	23.07.2022	Continuation to the previous week's topic. Design and analysis through solving numericals.
7	30.07.2022	Understanding of combined footings like rectangular, strip, raft footings.
8	06.08.2022	Continuation to the previous week's topic. Design and analysis through solving numericals
9	13.08.2022	Class exercise

10	20.08.2022	Introduction to tall structures. Theory and principles of structural design involved
11	27.08.2022	With emphasis on Wind forces and earthquake resistant mechanisms
12	03.09.2022	Hands on experiment with making ice-cream stick models of high rise towers.
13	10.09.2022	Hands on experiment with making ice-cream stick models of high rise towers.
14	17.09.2022	Class test
15	24.09.2022	Revision

LEARNING OUTCOMES 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.

READING LIST/ REFERENCES Strength of Materials by Ramruthum, Foundation Engineering by B.C. Punmia and P.C. Varghese

CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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	Design of tall structures. Theory and principles of structural design involve designing high-rise buildings with an emphasis on wind forces and earthquake resistance mechanism
CO3	Design of foundation to retaining walls and basement walls and various types of footings in structural system. Design and analysis through solving simple numerical problems
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:

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
Year of Assessment: 2022-2023	Subject:	Subject Code	University Subject Code	Sessional Marks: 100	Exercise 01 & 02: Marks out of	Credits	Date of submission		
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. 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 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 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 incorporating the minimum requirements	Arbitrary 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 incorporating the minimum requirements	Arbitrary 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 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

COURSE CODE	BARC 703	CREDITS	1
COURSE NAME	Architectural Building Construction & Materials	SESSIONAL MARKS	50
FACULTY	Vikram P., Dharmesh, Minal, Jamshid, Saurabh B, Ahana S. Bhavin N.	EXAM SCHEME	
CLASS DAY/TIME	Thursday – 8.00 -11.20, 12.00- 12.50.	NON-CLASS TIME	

PEDAGOGIC INTENT - 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 generating and simulating models corresponding to the various critical architectural parameters

COURSE METHODOLOGY - Theory Lectures

LECT	DATE	TEACHING CONTENT
1	14/06/22	Study trip and post trip working
2	21/06/22	Study trip and post trip working
3	28/06/22	Study trip and post trip working
4	5/7/22	Introduction of the exercise. Allocation of student faculty groups, preliminary discussion
5	12/7/22	Exercise 1: Thermal comfort analysis and mechanical augmentation - Sem 6 project
6	19/7/22	Thermal Comfort analysis - Heat
7	26/7/22	HVAC proposal schematic
8	2/8/22	Statutory approval Area statement
9	9/8/22	Statutory approval MoEF
10	16/8/22	Parsi New Year
11	23/8/22	BIM Modeling of Case example 1
12	30/8/22	Seismic Analysis - physical model on shake table
13	6/9/22	BIM modeling of case example - 2
14	13/9/22	Service and circulation schematics - Fire safety

15	20/9/22	Exercise 2 - High Rise submission
16	27/9/22	Condonation

LEARNING OUTCOMES -

- The course outlines the building of frameworks to analyze and inform design strategies through the use of tools and techniques establishing performance study to inform design
- Every aspect of analytical methods need to lead to build design intentions and form-based strategies
- To compose the various parameters and build a holistic understanding of the architectural intervention, performance of the form and function

READING LIST

CO-PO mapped syllabi of B.Arch Course 2021-2022 – *Architectural Representation and detailing 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 recognise 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 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	P O 5	P O6	P O7	
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		
21-22 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
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COURSE CODE	BARC 708	CREDITS	3
COURSE NAME	Architectural Building Services	SESSIONAL MARKS	50
FACULTY	Minal Y., Mamta P.	EXAM SCHEME	Theory exam 50
CLASS DAY/TIME	Wednesday – 1.20 - 3.00	NON-CLASS TIME	3 hrs

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 to achieve smooth and sustainable form. Various systems are introduced and the outcome expected from students is reflected in their choice of choosing of systems based on understanding the need of the people, building locality based on climate, and availability of natural ventilation.

COURSE METHODOLOGY - Theory Lectures, Small Exercises, Case – studies and site visits.

LECT	DATE	TEACHING CONTENT
1	15/06/2022	Introduction to topics briefly and site planning
2	22/06/2022	Basement planning - space requirement, amenities such as ramps, parking, firefighting requirements, structural system as an extension of building,
3	29/06/2022	ELECTIVE WEEK
4	06/07/2022	Retaining walls, light and ventilation, Mechanical Ventilation drainage and precautions for flooding.
5	13/07/2022	Human comfort levels, indoor ambient temperatures and passive cooling strategies, solar chimneys, geothermal, radiant cooling etc
6	20/07/2022	Air Conditioning - various systems of AC. From unit system to central system.
7	27/07/2022	Air conditioning - theory of air conditioning, space requirements, chilled water and direct expansion systems. Components of AC - AHU, cooling tower, ducting
8	03/08/2022	STUDY TRIP
9	10/08/2022	Lecture on Ducting - structural system to guide ducting, components of ducting, and briefly calculations
10	17/08/2022	Hot water systems - heater types, principles and working of systems, central systems and types, spaces required, solar heaters.
11	24/08/2022	Heating of spaces, various systems, solar and other sustainable heating systems
12	31/08/2022	Revision through case study of integration of technology and architecture
13	07/09/2022	Discussion regarding Technology studio
14	14/09/2022	Discussion regarding Technology studio
15	21/09/2022	Discussion regarding Technology studio
16	28/09/2022	

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 2222 Building Energy Management Systems: an application to heating and control.
 B 16 Mechanical and Electrical Systems in Construction and Architecture B
 2234 Air-Conditioning: a practical introduction.
 B 1290 Energy Conservation Standards: for building design, construction and operation. B
 3294 Mechanical and Electrical Equipment for Buildings.
 B 4542 Building Services: Electro Mechanical and Environmental Services
 B 3879 Advanced Building Systems: a technical guide for Architects and Engineers.
 B 1922 Mechanical Systems for Architects.
 References for case studies

CO-PO mapped syllabi of B. Arch Course 2022-2023 – 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 de-layer 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 case study-based approach.

Year of Assessment: 2022-2023	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			
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)Underst anding 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.	Extremel y poor understanding of the system.	Non-Submissi on
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	Represent ation needed clarificati on	Drawings not clear enough	Non-Submissi on
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	1	1			1	1	1
CO2	To enable students to understand components and workability of various HVAC systems within a building and capability to choose right systems					1	1	1	2
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	1	1		1	1	1	2

COURSE CODE	710	CREDITS	3 (2 PP , 1 SP)
COURSE NAME	Professional Practice 1 (Professional Practice 1 + Situating Practice)	SESSIONAL MARKS	100
FACULTY	Professional Practice 1 Mamta, Shantanu Situating Practice Nemish, Rutika	EXAM SCHEME	NIL
CLASS DAY/TIME	Friday: 1.20 – 3:00 pm Tuesday: 1.20-3:00 pm	NON-CLASS TIME	-

NOTE: The professional practice 1 course has been divided into 2 segments: Professional practice and stating practice. The former deals with the complexities of architectural practice and the latter deals with key theoretical developments in architectural practice. Thus, the two sub courses become one complete course

4	29-07-22	Idea of the practice: Setting up of practice (Fees, remuneration, philanthropy etc)
5	05-08-22	Designing In Practice: Modes of conducting practice
6	12-08-22	Relationships: Tenders, Contracts, Liability, Project Delivery Methods
7	19-08-22	Relationships: Tenders, Contracts, Liability, Project Delivery Methods
8	26-08-22	Mock Practice: Exercise 1: Challenges of maintaining client architect relationships, pitching for projects within ethical limits etc
9	02-09-22	HOLIDAYS
10	09-09-22	Architectural Competition - Types, rules and awards. External faculty input to provide insights into experiences of competitions.
11	16-09-22	Copyright Act - Theory and practical inputs
12	23-09-22	Working Studio
12	30-09-22	Working Studio
13	07-10-22	Presentations
14	14-10-22	Presentations
15	21-10-22	Condonation

COURSE 1 – PROFESSIONAL PRACTICE

COURSE CODE	BARC 710	CREDITS	2/3 PP
COURSE NAME	Professional Practice 1	SESSIONAL MARKS	50
FACULTY	Mamta, Karan	EXAM SCHEME	50
CLASS DAY/TIME	Tuesday 1 20 to 3 00	NON-CLASS TIME	2

PEDAGOGIC INTENT	Deconstructing Architectural Practice - <ul style="list-style-type: none"> Idea of Practice: The idea of the 'office' or the 'firm' and its different contemporary forms. Unpacking Practice: A run-through of the legalities, technicalities, and ethical concerns that shape contemporary practices. Innovative Practices: Examples and case studies decoding how practices can be conceptualized and executed differently from mainstream practices. Guest Interactive Sessions: These sessions will include external practitioners who will talk about challenges of their practices.
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COURSE METHODOLOGY	Investigate and probe contemporary practices Architectural careers range across a wide spectrum, from government service to activism. Interaction with architects who engage in said practices will be arranged to give the students a look into the inner workings of the profession. Lecture Inputs, Interviews Institute internship analysis sheet
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	08-07-22	Introduction to the Architectural Profession - Ideation, the skills imparted and the various avenues that one could opt for after graduation Choice of practice: Architectural careers range across a wide spectrum, from government service to activism. Interaction 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.	In small groups (three each), students will curate and conduct interviews with different practitioners in and around the city (or virtually), understanding the nature of their practice, their journeys, their positions on practice, and their outlook towards the future of practice. These interviews can be recorded or students can make notes and make a presentation reflecting on their takeaways from these interviews.	
2	15-07-22	Inception of professional bodies - History, background and intent. Architect's Registration Act 1972, COA - Duties and responsibilities		
3	22-07-22	Lecture + Discussion. Code of Conduct+ Ethics + Responsibility in practice		

LEARNING OUTCOMES	Unpacking contemporary practices Domain of Positioning The study of the architecture will be used to explain one's position and the question of ethics and code of conduct will be explored out of that position.
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READING LIST/ REFERENCES	Architecture depends Book by Jeremy Till The Architecture Student's Handbook of Professional Practice - By American Institute of Architects Theory of Practice and Practice of Theory by Chandavarkar The Medici Effect:Frans ohansson A Place in the Shade: Charles Correa Women Architects in India: Histories of Practice in Mumbai and Delhi The Architecture Chronicle: Diary of an Architectural Practice Book by Jan Kattei Prospects for a critical regionalism
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COURSE 2 – SITUATING PRACTICE

COURSE CODE	BARC 710	CREDITS	1/3 SP
COURSE NAME	Situating Practice 1	SESSIONAL MARKS	
FACULTY	Nemish, Rutika	EXAM SCHEME	
CLASS DAY/TIME	Tuesday 1:30 to 3:00	NON-CLASS TIME	2

PEDAGOGIC INTENT	<p>We think of Modernity, and consequently, Modern Architecture as a singular event that emerged out of the western world and spread all over the world. But as we know by now, there is no one, singular narrative to the story of Modernity. Modernity manifested itself in different places and at different times, in many different dimensions. The origins of these different strands of modernities are located within their own histories and their own particular encounters with forces of western modernity.</p> <p>The idea of the course is to understand these different modernities, and Modern Architecture in particular, as they emerged in different cultures around the world, and armed with that understanding, looking closely at Indian Modernity. Through this understanding of the growth of Indian Modern Architecture, we will trace its different trajectories. We will also study and examine examples of architecture across time and try and understand common themes within this idea of an Indian Modern Architecture.</p>
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COURSE METHODOLOGY	<p>The course will be run as a seminar. There will be a required reading list for each class. Each class will be structured as an initial presentation of 30-45 mins, and at the end of the presentation, there will be a group discussion and students will be asked to discuss / elaborate their opinions.</p> <p>Periodically, classes are allocated to student presentations. 10 projects will be presented by the students in each of these classes. The presentations will have to be original analysis and critical / close reading of those buildings, in terms of the larger meanings / ideas and ideologies of the buildings and their Architects. The presentations are meant to lead to a larger discussion of the themes and ideas which will be discussed in the class.</p>
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	12-07-22	Alternative Modernism: An Introduction In this, the first part of the introduction, we will discuss the varied meanings of MODERN / MODERNITY / MODERNISM - and especially as applied to the arts and ARCHITECTURE. The beginnings of Modernity (Starting with Colonisation of the rest of the world by Europe and till the Decline of Colonisation). Around the turn of the century, and by the middle of the century, almost all of the world, which was till then ruled by a few European countries, got freed from the yoke of capitalism.		
2	19-07-22	Alternative Modernism: An Introduction The Story of Modernism unfolded in different ways in countries such as Mexico, Turkey, Algeria, China, Japan, the African Continent, Brazil, India, Sri Lanka and so on. We will briefly see how this happened, what were the roots of this Architectural Modernism and what were the political, social and aesthetic compulsions behind it. In a sense, this overview will give us a better, overall idea of the story of Architectural Modernism, and help us look at the birth, genesis and trajectory of Modernism in India through a much bigger lens than is usually seen.		
3	26-07-22	The Idea of National Identity The idea of Architecture as an active producer of a National Identity. From Early Nehruvian impulses at Chandigarh / Bhakhra Nangal / Habib Rehman - to the India Pavilions to a resurgent India Sabarmati Riverfront / Amravati / Central Vista etc. MARG / VISTARA / SOA		
4	02-08-22	Student Presentations and Discussion		
5	09-08-22	The Idea of Style (or Formal Prerogatives) Starting from Charles Correa's Gandhi Ashram - as discussion of stylistic preoccupations in independent India. How the early modernisms of architects in India turned from being under the awe of Corb and Louis Kahn to an indigenous / regional style? From there to the Post-modernism of Hafeez Contractor and the Developer Architects - and then to the imitation of Global Styles (turning Mumbai to Shanghai etc..)		
6	16-08-22	Student Presentations and Discussion		
7	23-08-22	THE IDEA (or RETURN) OF TRADITION (OR INDIGENOUS MODERNITIES) Starting with the design of the Central Vista (by Lutyens and Baker) and the teaching of Claude Bately - to other ideas of		

		traditional Architecture in India. Birla Temples / Akshardham / Raj Rewal / Vasant and Rewathi Kamath / Abhikram /
8	30-08-22	THE CRITICAL / REGIONALIST TURN Starting with the Architecture of Antonin Raymond and Joseph Allen Stien, a discussion on regionalist practice - which, although Modern, attempted to create an architecture seeped within the traditions or Modern Architecture, but as well as appropriately negotiating the Indian Condition
9	06-09-22	Student Presentations and Discussion
10	13-09-22	THE IDEA OF PRACTICE From the Older traditions - of Master Builders / Craftsmen Architects - to the Sompura's - to the idea of the hands on Architects such as Laurie Baker / Nari Gandhi / Didi Contractor / to the new idea of practice such as Chitra Vishwanath / Roger Anger / Bijoy Jain - in Contrast to Larger practices or Collaborative practices...
11	20-09-22	Student Presentations and Discussion
12	27-09-22	Invited Discussion: Talking Education A discussion on the current trends in Architectural Education / the proliferation of architecture schools / quality and standards of education etc.
13	04-10-22	Invited Discussion: Talking Discourse A discussion on the current quality of DISCOURSE and criticism in architecture (magazines / books etc) or the lack thereof.
14	11-10-22	Invited Discussion: Talking Profession A discussion on the current trends in the profession between 2 different kinds of practices / their origins and modes of practice.
15	18-10-22	Condonation
16	25-10-22	HOLIDAYS

LEARNING OUTCOMES	<p>The attempt is to generate a discussion and investigation into the making of Indian Modernity and understanding it in relationship to the different forms of modernities that emerged in other contexts all around the world.</p> <p>This will enable the student to understand that history is not inevitable.</p> <p>It will also enable them to think of, and ask important questions of the past, and the present.</p>
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READING LIST/ REFERENCES	<p>Vincent Scully Jr, Modern Architecture - The Architecture of Democracy, George Braziller, 1961</p> <p>Peter Scriver, Amit Srivastava, India - Modern Architectures in History, Reaktion Books 2015</p> <p>Jon Lang, Madhavi Desai, Miki Desai, Architecture and Independence - A Search for Identity, India 1880-1980, Oxford University Press, 1997</p> <p>Hoshagrahar Jyoti, Indigenous Modernities : Negotiating Architecture, Urbanism, and Colonialism in Delhi Architext Series, Taylor and Francis Routledge 2005</p> <p>Partha Mitter, The Triumph of Modernism India's artists and the avant-garde 1922-1947, Reaktion Books 2007</p> <p>Ravi Kalia, Chandigarh, The Making of an Indian City, Oxford University Press, 1987</p> <p>Stephen Toulmin, Cosmopolis, The Hidden Agenda of Modernity, The University of Chicago Press, 1990</p> <p>Sunil Khilnani, The Idea of India, Penguin Books, 2012</p> <p>James Holston, The Modernist City - An Anthropological Critique of Brasilia. University of Chicago Press, Chicago 1989</p> <p>Luis E Carranza, Architecture as Revolution, Episodes in the History of Modern Mexico, University of Texas Press, Austin. 2010</p> <p>Jianfei Zhu, Architecture of Modern China, A Historical Critique. Routledge 2009</p> <p>Antoni S. Folkers Belinda A. C. van Buiten, Modern Architecture in Africa, Practical Encounters with Intricate African Modernity. Springer 2010</p> <p>Sibel Bozdogan, Modernism and Nation Building, Turkish Architectural Culture in the Early Republic. University of Washington Press, Seattle London. 2001</p> <p>Ari Seligman, Japanese Modern Architecture 1920-2015 Developments and Dialogues. The Crowood Press 2016</p>
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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 de-layer 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

Name: Fourth year

Course: Professional Practice 1

Course Code: BARC 710

Sem 7

Fourth Year

Course Objectives:

The course intends to encourage students to investigate contemporary practices to decode the trajectory of the practices and examine the work culture through the ideological positions held by them

Course: Situating Practice 1

Course Code: BARC 710

Sem 7

Fourth Year

Course Objectives:

The attempt is to generate a discussion and investigation into the making of Indian Modernity and understanding it in relationship to the different forms of modernities that emerged in other contexts all around the world.

This will enable the student to understand that history is not inevitable.

It will also enable them to think of, and ask important questions of the past, and the present.

Course Outcomes (CO): (Combined course outcomes for Professional Practice 1 and Situating Practice 1)

Course Outcome (Co)	Description
CO1	To understand the idea of practice by deconstructing contemporary practices how can they be conceptualized and executed differently from mainstream practices
CO2	To evaluate the consequence of myriad influences on practices to frame their ideological positions
CO3	To analyse various forms in which architecture practices can be manifested to contribute to the society at large
CO4	Preparing Students to understand the Making of Modern Indian Architecture through its own history and the history of modern architecture around the world.
CO5	Preparing students to make critical analyses and understand complex questions of Nation, Identity and History.

Rubrics 1 for Professional Practice 1:

Year of Assessment: 2022-2023	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	Subject:	University Subject Code	Sessional Marks: 100	Exercise 01 & 02: Marks out of	Credits	Date of submission			
FOURTH YEAR - SEM 07	Professional Practice 1	BARC 710							
Exercise: Title	Exploring forms of practice through different modes, technicalities, legal frameworks etc.								
Exercise Note / Task	Conduct interviews with different practitioners in and around the city (or virtually), understanding the nature of their practice, their journeys, their positions on practice, and their outlook towards the future of practice								
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

Rubrics 2 for Situating Practice 1:

Year of Assessment: 2022-2023	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	Subject:	University Subject Code	Sessional Marks: 100	Exercise 01 & 02: Marks out of	Credits	Date of submission			
FOURTH YEAR - SEM 07	Professional Practice 1	BARC 710							
Exercise: Title	Exploring forms of practice through different modes, technicalities, legal frameworks etc.								
Exercise Note / Task	Conduct interviews with different practitioners in and around the city (or virtually), understanding the nature of their practice, their journeys, their positions on practice, and their outlook towards the future of practice								
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

CO1	To understand the idea of practice by deconstructing contemporary practices how can they be conceptualized and executed differently from mainstream practices	2	1	1	3	3	2	2	3
CO2	To evaluate the consequence of myriad Influences on practices to frame their ideological positions	3	1	1	3	3	2	2	3
CO3	To analyse various forms in which architecture practices can be manifested to contribute to the society at large	1	1	1	1	3	3	3	3
CO4	Preparing Students to understand the Making of Modern Indian Architecture through its own history and the history of modern architecture around the world.	2	1	1	3	2	2	3	2
CO5	Preparing students to make critical analyses and understand complex questions of Nation, Identity and History.	1	1	1	3	3	2	3	1

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

COURSE CODE	BARP 720	CREDITS	3
COURSE NAME	College Projects VII/ Research Methods	SESSIONAL MARKS	Internal - 100
FACULTY	Sonal, Karan	EXAM SCHEME	NIL
CLASS DAY/TIME	Thursday/ 1:20 pm to 3 pm	NON-CLASS TIME	

PEDAGOGIC INTENT	This course intends to deconstruct the imagination of what 'research' means in architecture, urbanism, and allied disciplines. By introducing examples of different ways of conducting and communicating research within these disciplines, the course attempts to break out of the conventional 'qualitative - quantitative' binary, to expand different possibilities of thinking about and doing research in these disciplines. Examples discussed will be through readings as well as case studies of completed multidisciplinary projects, including films, art projects, exhibitions, books, illustrated books, thesis projects, and other forms of narratives.
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COURSE 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
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LECT	DATE	TEACHING CONTENT
1	9th June 2022	Introduction to the course, distribution of readings, and lecture on Lefebvre's Production of Space
2	16th June 2022	Discussion on Kevin Lynch's Image of the City
3	23rd June 2022	Discussion on Christopher Alexander's A Pattern Language
4	30th June 2022	Discussion on Bernard Tschumi's Manhattan Transcripts
5	7th July 2022	Discussion on Intro chapter – Architecture of the City
6	14th July 2022	Discussion on Dolores Hayden's What Would a Non-Sexist City Be Like?
7	21st July 2022	Discussion on Michel de Certeau's Walking in the City
8	28th July 2022	Discussion on Genius Loci – Christian Norberg Schulz
9	4th August 2022	Discussion on Sidewalk – by Mitchell Duneier
10	11th August 2022	Discussing other media – audio-visual works.
11	18th August 2022	Discussing other media – audio-visual works.
12	25th August 2022	Discussing other media – audio-visual works.
13	1st September 2022	Ganesh Chaturthi break
14	8th September 2022	Summing up and closing discussions

LEARNING OUTCOMES	(1) methods of analyzing and critiquing arguments; (2) critical reading; (3) articulating ideas; 4) Critical writing
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CO-PO mapped syllabi of B.Arch Course 2022-23_College Projects VII: Research Methods

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 VII: Research Methods Sem: 7 Fourth Year

Course Objectives:

1. To understand strategies of architectural research.
2. To organise facts and ideas based on individual experiences for ongoing research and for future use

Course Outcomes (CO): (College Projects VII: Research Methods)

1. To evaluate the idea of ‘research’ in the disciplines of architecture and urbanism. What does research in these disciplines imply? What are the ways to understand the idea of research within these disciplines? – These are the key questions this course attempts to address. Reviewing literature and critiquing arguments
2. To apply different modes and ways of conducting and representing research in the disciplines of architecture and urbanism.
3. To understand the inherent interdisciplinary and mixed methodology in research in the disciplines of architecture and urbanism.
4. To state and employ new perspectives, techniques, and ways of thinking about and conducting research within these disciplines.

1.

Rubrics (College Projects VII: Research Methods):

Year of Assessment: 2022-23	USM's Kamla Raheja Vidyaniidhi 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 - See 7	College Projects VII: Research Methods		BARP 720	100	100	3			
Exercise: Title	Reading of the Texts Provided								
Exercise Note / Task	Illustrating the concepts through the selection of appropriate spatial/architectural examples from the contemporary world through history.								
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 interpretation of the given theoretical text	Outstanding ability to understand and interpret the concepts within the reading material provided, making corrections to other theoretical concepts	Outstanding ability to understand and interpret the concepts within the reading material provided.	Outstanding ability to understand and interpret the concepts within the reading material provided	Excellent ability to understand and interpret the concepts within the reading material provided.	Very good ability to understand and interpret the concepts within the reading material provided.	Good ability to understand and interpret the concepts within the reading material provided.	Fair ability to understand and interpret the concepts within the reading material provided.	Satisfactory ability to understand and interpret the concepts within the reading material provided.	Poor ability to understand and interpret the concepts within the reading material provided.

	Outstanding selection of examples to illustrate and analyse the concept and its spatial manifestations. The selections demonstrate an ability to provoke and challenge or expand the framework	Outstanding selection of examples to illustrate and analyse the concept and its spatial manifestations. The selections demonstrate an ability to creatively interpret the framework and methods	Outstanding selection of examples to illustrate and analyse the concept and its spatial manifestations.	Excellent selection of examples to illustrate and analyse the concept and its spatial manifestations	Very good selection of examples to illustrate and analyse the concept and its spatial manifestations	Good selection of examples to illustrate and analyse the concept and its spatial manifestations	Fair selection of examples to illustrate and analyse the concept and its spatial manifestations	Satisfactory selection of examples to illustrate and analyse the concept and its spatial manifestations	Poor selection of examples to illustrate and analyse the concept and its spatial manifestations
Choice and nature of inquiry									
Identifying new areas and possibilities within architectural or spatial thinking	Outstanding ability to critically examine and raise new possibilities and raise questions within the conceptual framework, the ability to frame a critique that gives rise to new directions and methods	Outstanding ability to critically examine and raise new possibilities and questions within the conceptual framework	Outstanding ability to critically examine and raise new possibilities and questions within the conceptual framework	Excellent ability to critically examine and raise new possibilities and questions within the conceptual framework	Very good ability to critically examine and raise new possibilities and questions within the conceptual framework	Good ability to critically examine and raise new possibilities and questions within the conceptual framework	Fair ability to critically examine and raise new possibilities and questions within the conceptual framework	Satisfactory ability to critically examine and raise new possibilities and questions within the conceptual framework	Poor ability to critically examine and raise new possibilities and questions within the conceptual framework
Attendance, time management and participation in studio	100%	95%-99%	91%-94%	85%-90%	81%-84%	75%-80%	70%-74%	60%-73%	Below 60%

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	To evaluate the idea of 're-search' in the disciplines of architecture and urbanism. What does research in these disciplines imply? What are the ways to understand the idea of research within these disciplines? – These are the key questions this course attempts to address.	3	2	2	1	2	3	1	1
CO2	To apply different modes and ways of conducting and representing research in the disciplines of architecture and urbanism	2	1	1	1	1	1	1	1
CO3	To understand the inherent inter-disciplinarity and mixed methodology in research in the disciplines of architecture and urbanism	3	2	2	1	2	3	1	1
CO4	To state and employ new perspectives, techniques, and ways of thinking about and conducting research within these disciplines.	3	1	2	1	3	2	1	1

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

Program Specific Objectives

Fifth Year

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.

Fourth 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 Lecture 1, 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 disciplines. 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

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	Total
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
BARC 911	Design Dissertation 1	1	3	1	3	4
BARC 921	Elective 8		3		3	3
BARC 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
BARC 911	Design Dissertation 1		50	50	100
BARC 921	Elective 8		100		100
BARC 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 Studio BARC 901 4AD	Technology Lecture 2 (ABS/ EVS) BARC 906/BARC 908 3 EVS/ABS	Design Dissertation BARD 911 4 DD Aneerudha, Ainsley, Aishwarya, Ankush , Dharmesh, George, Ginella, Jamshid, Jude, Kimaya, Karan, Mamta, Manoj, Minal, Nemish, Rohan, Rutika, Shantanu P, Shantanu K, Shirish, Sonal, Shweta, Swati S, Vandana, Vikram	Architectural Design Studio BARC 901 4AD	Advanced Technology Studio BARC 903/BARC 908 /BARE 921 1 const St + 2 ABS + 1 Elec=4				
8.50 - 9.40						Aahana Kimaya	Shirish Ketaki Praveer S Alan Abraham	George Jai B Ruchir J Mamta	Jai B Kimaya Dharmesh Shantanu K
9.40 - 10.30									
10.30 - 11.20						Research Writing 2 of 5 ALD Ankush,Aishwarya, Hussain, Sonal, Shirish, Rutika, Sarah , Faculty , Faculty			
11.20 - 12.00	B R E A K								
12-00-12.50	Situating Practice Mamta Karan	Research Writing BARC 902 2 of 5 ALD	Research Methods:Lectures Hussain Sarah Ginella	Technology Lecture 1 (ABC/TOS)	ENCOUNTERS				
12.50 - 1.20	L U N C H B R E A K								
1.20 - 2.10	Situating Practice BARC 910 3PP	Design Dissertation BARD 911 2 DD(slot) Jamshid, Jude, Kimaya, Karan, Mamta, Manoj, Minal, Nemish, Rohan, Rutika, Shantanu P, Shantanu K, Shirish,	Research Writing BARC 902 3 of 5 ALD Ankush,Aishwarya, Hussain, Sonal, Shirish, Rutika, Sarah , Faculty , Faculty	Technology Lecture 1 (ABC/TOS) BARC 903/BARC 904 3	Architectural Theory BARE 921 2 EL				
2.10 - 3.00						Mamta Karan	Vikram Faculty	Sonal Rutika	
34+2(Electives)= 36 credits	7	7	7	7	6				

COURSE CODE	BARC 901	CREDITS	8
COURSE NAME	Architectural Design Studio VIII	SESSIONAL MARKS	100
FACULTY	George J. & Shirish J. Ketaki B. & Jay B. Mamta P. & Alan A. Pravir J. & Ruchir J.	EXAM SCHEME	Viva Voce (100 marks)
CLASS DAY/TIME	Tuesday & Friday – 8.00 to 11.20	NON-CLASS TIME	

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.
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COURSE 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 faculty offering the module.
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LEARNING OUTCOMES	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 the 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.
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LECT	DATE	TEACHING CONTENT
1	13.06.2022	Introduction
	16.06.2022	Studio discussion
2	20.06.2022	Studio discussion
	23.06.2022	Studio discussion
3	27.06.2022	Elective week
	01.07.2022	Studio discussion
4	04.07.2022	Studio discussion
	07.07.2022	Studio discussion
5	11.07.2022	Studio discussion
	14.07.2022	Studio discussion
6	18.07.2022	Studio discussion
	21.07.2022	Studio discussion
7	25.07.2022	Studio discussion
	28.07.2022	Studio discussion
8	01.08.2022	Studio discussion
	04.08.2022	Studio discussion
9	08.08.2022	Mid term Review
	11.08.2022	Studio discussion
10	15.08.2022	Holiday
	18.08.2022	Studio discussion
11	22.08.2022	Studio discussion
	25.08.2022	Studio discussion
12	29.08.2022	Studio discussion
	01.09.2022	Mid term break
13	05.09.2022	Studio discussion
	08.09.2022	Studio discussion
14	12.09.2022	Studio discussion
	15.09.2022	Studio discussion
15	19.09.2022	Studio discussion
	22.09.2022	Studio discussion
16	26.09.2022	Final Review

COURSE CODE	BARC 901	CREDITS	
COURSE NAME	Architectural Design Studio VIII	SESSIONAL MARKS	100
FACULTY	George Jacob & Shirish Joshi	EXAM SCHEME	External (100 marks)
CLASS DAY/TIME	Monday & Thursday – 8.00 to 11.20	NON-CLASS TIME	

PEDAGOGIC INTENT This Studio proposes to study, document, analyze and propose interventions that combine design operations with production systems of/for food infrastructure. Our larger aim is to explore locations within the Mumbai Metropolitan Region along a transect that covers the very-urban situations to rural landscapes through scheduled visits and meetings with stakeholders operating in these situations. This year the studio will do a detailed observation at ten conditions along this transect, focusing primarily within the Mumbai Municipal Corporation limit. These conditions include a fishing village, Tabela’s in the Aarey colony, five adivasi pada’s on the western, northern, eastern and southern edges of the Sanjay Gandhi National Park (SGNP), salt farms on the eastern creek and some others.

COURSE METHODOLOGY In order to achieve built manifestations that will renew and build new relations with food systems – production, distribution, consumption, transactions and distribution, the studio will go through a four staged process that will innovate on methodologies invented by the Situationists and ways of Communicative Action

12	29.08.2022	Studio discussion
	01.09.2022	Mid term break
13	05.09.2022	Studio discussion
	08.09.2022	Studio discussion
14	12.09.2022	Studio discussion
	15.09.2022	Studio discussion
15	19.09.2022	Studio discussion
	22.09.2022	Studio discussion
16	26.09.2022	Final Review

LECT	DATE	TEACHING CONTENT
1	13.06.2022	Introduction to the Studio and Literature Review
	16.06.2022	Introduction to the Studio and Literature Review
2	20.06.2022	Integrating food into planning of cities and architecture Case Study Presentation.
	23.06.2022	Integrating food into planning of cities and architecture Case Study Presentation.
3	27.06.2022	First observations on field
	01.07.2022	First observations on field
4	04.07.2022	First observations on field
	07.07.2022	First observations on field
5	11.07.2022	Argument building with engagement with resource person
	14.07.2022	Argument building with engagement with resource person
6	18.07.2022	Argument building with engagement with resource person
	21.07.2022	Argument building with engagement with resource person
7	25.07.2022	Setting up of the program - text, form, numbers
	28.07.2022	Setting up of the program - text, form, numbers
8	01.08.2022	Studio discussion
	04.08.2022	Studio discussion
9	08.08.2022	Mid term Review
	11.08.2022	Studio discussion
10	15.08.2022	Holiday
	18.08.2022	Studio discussion
11	22.08.2022	Studio discussion
	25.08.2022	Studio discussion

COURSE CODE	ADS088	CREDITS	8
COURSE NAME	Bridge Studio	SESSIONAL MARKS	100
FACULTY	Mamta, Alan Abraham	EXAM SCHEME	External - 100 marks
CLASS DAY/TIME	Monday / Thursday 8:00 - 11:20 am	NON-CLASS TIME	5

LEARNING OUTCOMES	The studio shall emphasize the transformations of ideations to the discipline of architecture and in that sense, the built environment. It aims to focus on the aspects of dignity and delight in architecture design from maybe Kant's Aesthetic theory, Albertis formalist approach, Vitruvius triad and the like. The studio outcome will look at manifestations in the built form within the transect selected or independently
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**READING LIST/
REFERENCES**

PEDAGOGIC INTENT	The studio aims to revitalize and reimagine already developed urban land as a space for interaction, activity and rejuvenation along with provision of essential amenities that posit a sense of place and belonging. The bridge studio is seen as a bridge both from the world of the profession inwards into the school bringing in to the academic space new areas of exploration as well as particular areas of interest the school is interested in pursuing. In that sense Tschumi offers architecture as a means of synthesising practice and theory with reality. With the design of the Parc de la Villette, he demonstrates that the built environment can play an active role at a time when history's future is more uncertain than ever before
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COURSE METHODOLOGY	The course will comprise studio discussions, input lectures as well as interactions with the stakeholders. A one-kilometre radius around the Institute will be explored in the form of transects from which various programs can be developed. Students will interact with the stakeholders to interpret requirements for public essentials and plunge into the design process. Further interaction with the stakeholders will facilitate drawing up a plan for taking the projects to realization stage either through the design cell or independently. They will explore the following <ol style="list-style-type: none"> 1. The school terrace 2. Roundabout options 3. Connecting all the parks in the neighbourhood 4. Bus routes, stops 5. Furniture, seating 6. Landscape elements 7. Signage
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	13/06/22	Studio introduction and discussion		
2	16/06/22	Case areas		
3	20/06/22	Case area sections		
4	23/06/22	Discussions on interventions		
5	04/07/22	Case Studies		
6	07/07/22	Desk crit and data collection review		
7	11/07/22	Desk crit and data collection review		
8	14/07/22	Case Studies Presentation		
9	18/07/22	Design Ideation		
10	21/07/22	Working studio		
11	25/07/22	Working studio		
12	28/07/22	Working studio		
13	01/08/22	Review		
14	04/08/22	Working studio		
15	08/08/22	Working studio		
16	11/08/22	Working studio		
17	15/08/22	Working studio		
18	18/08/22	Workshop		
19	22/08/22	Workshop		
20	25/08/22	Workshop		
21	29/08/22	Mid- term Review		
22	01/09/22	Workshop		
23	05/09/22	Workshop		
24	08/09/22	Workshop		
25	12/09/22	Workshop		
26	15/09/22	Workshop		
27	19/09/22	Workshop		
28	22/09/22	Workshop		
29	26/09/22	Workshop		

COURSE CODE	ADS088	CREDITS	8
COURSE NAME	Bridge Studio	SESSIONAL MARKS	100
FACULTY	Ketaki Bhadgaonkar and Jai Bhadgaonkar	EXAM SCHEME	100 (External)
CLASS DAY/TIME	Monday and Thursday	NON-CLASS TIME	-

PEDAGOGIC INTENT

The scope of the architectural problems has been growing complex with the rapid urbanisation and new pedagogical models for architecture studio have emerged to introduce new perspectives to the design approach and methods. Participatory approach is one such architecture studio pedagogy that provides students with an opportunity to create a holistic design that addresses the user needs while exploring a bottom-up approach. The studio intends to incorporate participatory methods as a core ideology that will offer students a cultural awareness of user needs and the on-ground complexities that will help them to comprehensively design integrated solutions that are contextual in nature.

The course intends to challenge the top-down approach, questioning the contested ownership of the environmental commons, communities/densities and conservation of traditional knowledge. The course is structured around the core ideology of public participation as a practice in the realm of design within communities. The attempt will be to understand the idea of participatory processes and methods within a community, their interdependencies for livelihood and the conflicts of cohabitations. The students will be introduced to various aspects of participatory approach and their relevance to the practice while dealing with a specific community, while exploring the idea of ‘co-creation’.

As of today, Mumbai’s coastline is dotted by about 39 fishermen settlements (Koliwadass) that date back to 400 years of evolution. It is important to address the concerns and uncertainties around the sustenance of those who live in these villages. The studio brings attention to the fishing community in Mumbai – the Kolis – who face an uncertain future as a result of global climatic concerns and loss of livelihood. The course creates an opportunity to establish close interactions with the community, to understand their concerns and initiate a dialogue to produce transformative actions that envision sustainable development. The Kolis all across Mumbai are struggling to claim their property rights through the legal demarcation of village boundaries. The feeling of losing their ownership and cultural identity seems critical due to the blurry ownership rights as well as livelihood uncertainties. Over densification, climate change, developmental pressures, ecological deterioration and changing aspirations have led to uncertainties in fishing as a livelihood. Furthermore, the Kolis have been recently struggling to put a halt to the decision of shifting the fish markets of Dadar and Crawford to Airoli. The students will engage themselves in the understanding the correlations between livelihood, ownerships and the market. The community owned lands could be explored as an opportunity to co-create a holistic architecture that can address the community needs. The intention is to adopt participatory tools for architectural programmatic development for the community lands. (Example – Fish market, fishing related activities, museum, etc.)

COURSE METHODOLOGY The participatory approach will facilitate a deeper understanding of the complexities of the systems and the communities’ needs and wants. The attempt

will be to explore the role of co-creation in gaining insights for an architecture design project. The methodology will comprise of multiple interactions with the community in the form of interviews, focused group discussions and meetings using different participatory methods.

LECT	DATE	TEACHING CONTENT
1	13/06	Introduction to studio – Communities, Livelihood dependencies, Concept of community lands
2	16/06	Study of different indigenous communities and their community owned lands
3	20/06	Site visits to communities in Mumbai (Koliwadass – Versova / Khardanda / Dharavi)
4	23/06	Presentation on Site impressions and finalisation of study areas
5	27/06	Site mapping and studies
6	30/06	Site studies – understanding the history and evolution of the sense of ‘boundaries’, ‘edges’ and ‘ownerships’.
7	04/07	
8	07/07	
9	11/07	Site mapping and studies – Evolution, conflicts, vulnerabilities, community, etc.
10	14/07	
11	18/07	
12	21/07	Presentation on Studies – Layers of community, livelihood, ownerships, conflicts, vulnerabilities
13	25/07	Identification of Community lands
14	28/07	Detailed studies of Community lands
15	01/08	
16	04/08	Community Meeting for Understanding land conflicts, tenure, ownerships, etc. – Community’s aspirations and expectations for the development of the community lands.
17	08/08	Development of program and Analysis
18	11/08	Presentation on Analysis of the community owned lands and program development for the community lands with justification
19	15/08	HOLIDAY
20	18/08	Design conceptualisation
21	22/08	Design Development
22	25/08	Understanding the bylaws and feasibility for a practical solution
23	29/08	Exploring materials
24	01/09	Presentation of Preliminary Design propositions
25	05/09	Design Development
26	08/09	Financial proposition and phasing of the project
27	12/09	Design Development
28	15/09	Feasibility of the project
29	19/09	Presentation to the Community
30	22/09	Design Calibrations based on meeting with community
31	26/09	FINAL JURY
32	29/09	Submit a copy of compiled report and proposition to the Community

LEARNING OUTCOMES The studio seeks to understand how do the designers utilize and implement insights gained from co-creation. The programmatic development based on the utilization of the insights gained from the co-creation or community interactions will be very crucial outcomes of the studio. As the complexity of constraints and problems that architects must react to such as environmental sustainability, more complex urban systems, and culturally dissimilar

communities has increased, the course introduces participatory design as studio pedagogy to better prepare architecture students for a changing practice. New studio pedagogies focus on providing students with a diversity of approaches and tools to comprehensively understand problems and provide creative solutions.

READING LIST/ REFERENCES

1. Case Study - Commoners As Enclosers: Land Tenure And Conflicting Claims In A Mumbai Koliwada, *Shweta Wagh*, BINUCOM 2017
2. Malvani People's Plan, *Hussain Indorewala & Shweta Wagh*, KRVA Design Cell 2014
3. Urban Typhoon Workshop Dharavi Koliwada, *urbz Mumbai*, 2008

It's a common grouse amongst not just the architectural fraternity but also with clients and end users that we do often simply takes too long. This is particularly true during the construction stage but even design, approvals and coordination are often afflicted by delay.

Given all the tools that technology has placed at our disposal, between CAD, BIM, advanced visualisation/ VR/ AR, algorithmic design/ AI on the design side and various modern methods/ digital fabrication on the construction side including laser/ CNC/ Waterjet cutting, rapid prototyping etc, are we producing at a pace significantly faster than we were? Are buildings approvals being granted quicker now than they were ever before?

Besides the gleam and allure of digital design and fabrication, the studio should also look to explore traditional (i.e. not necessarily digital) smart design. On the design & planning side this should look at putting into place and streamlining systems and processes involving cleverer (read: faster) ways of designing and producing construction documents. On the physical/ construction side, this may include the use of modular or repetitive elements, off-site fabrication, up-cycling, use of alternate materials.

All of this ought to be done without compromise on quality, or on environmental responsibility.

Architecture and architects are traditionally late embracers of new tech (most people I know still use only the same features in CAD software that were shipped a decade ago!)

The obvious application for this would be for anything that requires rapid deployment e.g. refugee/ disaster shelter, COVID centres etc - although the studio would intend to go beyond this into the realm of "permanent" structures. From an economical point of view, as consultants, our time is money. We are not usually compensated extra (at least in this country) for projects that drag on due to reasons that are beyond our control. The quicker we can design and erect our buildings, the more efficient this makes us as professionals, and the more value we bring to any potential client.

At this point there is no fixed idea of programme, but initial thoughts include:

- school for the built environment
- industrial buildings
- transit camp housing

CO-PO mapped syllabi of B.ArchCourse 2022-2023 – 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

Fifth Year

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):

Course Outcome (Co)	Description
CO1	Understanding context through primary and secondary research to collate data.
CO2	Analysing data to derive inferences about the key issues based on the intent of the studio.
CO3	Creating an architectural brief with the program so as to intervene in the context/site.
CO4	Representing the architectural scheme through drawings, renderings, multimedia and models

Rubrics:

USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture										
Year of Assessment: 2022-23	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 analysis with some 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	

COPO Mapping Setup for Sem 9

CO-PO mapping for a course of "PG program"									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	Understanding context through primary and secondary research to collate data.	2	2	1	2	3	2	1	1
CO2	Analysing data to derive inferences about the key issues based on the intent of the studio.	2	3	1	2	3	2	1	1
CO3	Creating an architectural brief with the program so as to intervene in the context/site.	2	3	3	2	2	2	2	1
CO4	Representing 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

COURSE CODE	BARC 902	CREDITS	5
COURSE NAME	Allied Design: Research Methods	SESSIONAL MARKS	Internal - 50
FACULTY	Ginella, Sarah, Hussain	EXAM SCHEME	NIL
CLASS DAY/TIME	Wednesday 12 pm to 12:50 pm	NON-CLASS TIME	

PEDAGOGIC INTENT	The course is aimed at developing the argument structure for the final year thesis dissertation.
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COURSE 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
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LECT	DATE	TEACHING CONTENT
1	8th June 2022	Introduction to the course
2	15th June 2022	Writing an Abstract
3	22nd June 2022	Group Discussions: Draft of Abstract
4	29th June 2022	Group Discussions: Draft of Abstract
5	6th July 2022	Introduction Chapter
6	13th July 2022	Group Discussion: Draft of Introduction Chapter
7	20th July 2022	Group Discussion: Draft of Introduction Chapter
8	27th July 2022	Literature Review
9	10th August 2022	Group Discussion: Draft of Literature Review
10	17th August 2022	Research Methodology
11	24th August 2022	Group Discussion: Research Methodology
12	31st August 2022	Ganesh Chaturthi Break
13	7th September 2022	Chapterization
14	14th September 2022	Referencing and Bibliography
15	21st September 2022	Group Discussion: Final Volume
16	28th September 2022	Submission of first draft of Thesis Volume

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
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CO-PO mapped syllabi of B.Arch Course 2022-23 Allied Design: Research Methods 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: Research Methods 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 Outcomes (CO): (Allied Design: Research Methods Writing)

1. Developing methods of conducting research
2. Reviewing literature and critiquing arguments
3. Articulating the process of research through observations and findings

Rubrics (Allied Design: Research Methods Writing):

Year of Assessment: 2022-23		USM's Kamla Raheja Vidyaniidhi 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 Design: Research Methods Writing	BARC 902	50	50	5					
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	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										
Articulation and analysis of research argument	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 lack-	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	

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	2	1	0	2	1	2
CO2	Reviewing literature and critiquing arguments	3	2	2	1	0	2	2	2
CO3	Articulating the process of research through observations and findings	3	2	1	1	0	1	1	3

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

CO-PO mapped syllabi of B.Arch Course 2021-2022 – *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.

COURSE CODE	BARC 903	CREDITS	1
COURSE NAME	Architectural Building Construction & Materials 8	SESSIONAL MARKS	50
FACULTY	Vikram, Dharmesh	EXAM SCHEME	
CLASS DAY/TIME	Thursday 12 00 to 12 50; 1 20 to 3 00	NON-CLASS TIME	nil

PEDAGOGIC INTENT	<ul style="list-style-type: none"> • To teach the university syllabus- large span (Rigid frames, Portals), Shells, Tensile, Space frames; Prestressed Concrete; Precast and PEB. • To encourage integration of technical interests and findings with thesis objectives or in the subsequent resolution of their design dissertations. • The prepare the student to integrate a detailed understanding of material, construction and environmental systems within their design dissertations. • To provide possible support for the student to make choices of varying specialisations for holistic evolution of their design dissertations.
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COURSE METHODOLOGY	Lectures based on university syllabus as well as broader technical thematics for advancement of research interests in technical domains- Construction in Digital age; Environment and Energy concerns; Structure, Materials and systems of tectonic Forms; Quizzes; Reviews of their engagement with their research interest as part of technology studio.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	16/6/22	Introduction - intent of the semester and Course structure Overview		
2	23/6/22	Long span structures - Architectural Expressions		
3	30/6/22	Portals : Architectural Design of Portal; use of Portal:		
4	7/7/22	Skins of a Large spanned structure		
5	14/7/22	Hands on models to understand Portals		
6	21/7/22	Folded Plates		
7	28/7/22	Tensile structures		
8	4/8/22	Prestressed Technology		
9	11/8/22	Long span arches, shells		
10	18/8/22	Recap		
11	25/8/22	Applications for Tech studio		
12	1/9/22	Discussions for Tech studio		
13	8/9/22	Submission		

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 well as be able to develop the technological intent towards ones own Design Dissertation
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READING LIST/ REFERENCES	Structural system by Henrich Engel, Construction material methods and techniques by Spence and Kultermann, Fundamentals of Building Construction by Allen and Iano
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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.
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 - 2020-21

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: 2021-2022	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 "PG 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

CO-PO mapped syllabi of B.Arch Course 2021-2022 – *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.
 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.

COURSE CODE	BARC 903	CREDITS	2
COURSE NAME	Theory and Design of Structures 8	SESSIONAL MARKS	50
FACULTY	Vikram, Dharmesh	EXAM SCHEME	
CLASS DAY/TIME	Thursday 12 00 to 12 50; 1 20 to 3 00	NON-CLASS TIME	nil

PEDAGOGIC INTENT	<ul style="list-style-type: none"> • To teach the university syllabus- large span (Rigid frames, Portals), Shells, Tensile, Space frames; Prestressed Concrete; Precast and PEB. • To encourage integration of technical interests and findings with thesis objectives or in the subsequent resolution of their design dissertations. • The prepare the student to integrate a detailed understanding of material, construction and environmental systems within their design dissertations. • To provide possible support for the student to make choices of varying specialisations for holistic evolution of their design dissertations.
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COURSE METHODOLOGY	Lectures based on university syllabus as well as broader technical thematics for advancement of research interests in technical domains- Construction in Digital age; Environment and Energy concerns; Structure, Materials and systems of tectonic Forms; Quizzes; Reviews of their engagement with their research interest as part of technology studio.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	16/6/22	Introduction - intent of the semester and Course structure Overview		
2	23/6/22	Long span structures - Architectural Expressions		
3	30/6/22	Portals : Architectural Design of Portal; use of Portal:		
4	7/7/22	Skins of a Large spanned structure		
5	14/7/22	Hands on models to understand Portals		
6	21/7/22	Folded Plates		
7	28/7/22	Tensile structures		
8	4/8/22	Prestressed Technology		
9	11/8/22	Long span arches, shells		
10	18/8/22	Recap		
11	25/8/22	Applications for Tech studio		
12	1/9/22	Discussions for Tech studio		
13	8/9/22	Submission		

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 well as well be able to develop the technological intent towards ones own Design Dissertation
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READING LIST/ REFERENCES	Structural system by Henrich Engel, Construction material methods and techniques by Spence and Kultermann, Fundamentals of Building Construction by Allen and Iano
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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.
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: 2017-2018	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
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COPO Mapping Setup for Sem 9

CO-PO mapping for a course of “PG program”									
Sr. No.	CO description	PO 1	PO 2	PO 3	PO4	PO5	PO6	PO7	PO8
CO1	To understand long span structural framing and design	2	3	1	1	2	1	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

COURSE CODE	BARC 906	CREDITS	2+1 ABS
COURSE NAME	Environmental Studies 4	SESSIONAL MARKS	100
FACULTY	Kimaya K, Minal Y	EXAM SCHEME	INTERNAL
CLASS DAY/TIME	Monday 8.00am – 9.40am	NON-CLASS TIME	2 hours

PEDAGOGIC INTENT	The course focusses on engaging students at an 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.
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COURSE METHODOLOGY	Theory Lectures showcasing design projects and Discussions
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WEEK DATE	TEACHING CONTENT	MARKING WEIGHTAGE
1 07.06.22	Site analysis and representation of Data collated	
2 14.06.22	Preparation of Site and Master Plan (design and Representation)	
3 21.06.22	Guidelines to work with Eco sensitive Sites	
4 28.06.22	Guidelines to work with Brownfield or adapted re-use	
5 5.07.22	Energy Efficient Building systems and EPI	
6 12.07.22	Green Rating systems and their Implementation	
7 19.07.22	Façade Development (design material, construction details)	
8 26.07.22	Case Studies on types of Facades	
9 2.08.22	Case Studies - Biomimicry	75 marks
10 9.08.22	Post Occupancy Evaluation for Housing projects in Mumbai (Rehabilitations and Resettlement Schemes)	
11 16.08.22	Site Services and Techniques (Service oriented building typologies)	
12 23.08.22	MCQ Test	25 marks
13 30.08.22	Waste recycles upcycle techniques and systems	
14 13.09.22	Eco Villages and Sustainable Living Systems	
15 20.09.22	Zero Energy Buildings	
16 27.09.22	EVS Representation Techniques on Data and Design	

LEARNING OUTCOMES: Knowledge and understanding of Environmental systems to be incorporated with their architectural design project

READING LIST/ 1 Handbook on Energy conscious buildings, 2 Environmental planning Anne Beer, 3 Skyscrapers, Ken Yeang, 4 Ecological Architecture, 5 Soleri, 6 Energy Efficient buildings, 7 Environments, Technology and sustainability and Design with Nature, 9 Sustainable building in practices, 10 Responsive environments, 11 Ecohouse, 12 Green Architecture, 13 Natural Ventilation in Urban Environment, Greening Asia by Krishanan, Aquatecture by Robert Barker, Atlas for Sustainable Architecture by Pframtmter

CO-PO mapped syllabi of B.Arch Course 2022-2023 – Environmental Studies 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: Environmental Studies 4
Course Code: BARC 906

Sem 09

Name – Fifth Year

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 tool kits to arrive /derive efficient building solutions and environmental strategies for adaptation and mitigation to address challenges of climate change.

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 : 2022-2023	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
Year & Sem	Subject:	Subject code	Sessional Marks:	Exercise of 01: Marks out	Credits :	Date of submission	Upgrade 01	Upgrade 02		
FIFTH YEAR-SEM9	EVS	BARC 906	100	100	2EVS+1 ABS	02.08.2022				
Exercise: Title	Case Study Presentation - Biomimicry									
Exercise Note / Task	Case Study presentations on environment-sensitive architectural projects									
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 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 incorporating the minimum requirements	Arbitrarily and Adhoc Inquiry	

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 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 on 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
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 “PG program”									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To identify the area of interest specific to environmental revelation.	2	3	3	2	1	1	2	1
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.	2	3	1	2	1	0	2	2

CO3	To gain holistic understanding of urban sustainability while focusing on understanding sustainable development goals.	3	2	2	3	2	2	2	3
CO4	To be able to understand current urbanization-induced environmental challenges and further manage architectural complexities within urban/rural environments.	2	3	2	1	2	2	2	1

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

COURSE CODE	BARC 908	CREDITS	1 of 2 ABS and 1 of 2 ABC
COURSE NAME	Architectural Building Services	SESSIONAL MARKS	50
FACULTY	Kimaya K, Ahana S	EXAM SCHEME	INTERNAL
CLASS DAY/TIME	Monday 8.00am – 9.40am	NON-CLASS TIME	2 hours

PEDAGOGIC INTENT	The course focuses on engaging students at an 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.
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COURSE METHODOLOGY	Theory Lectures showcasing design projects and Discussions
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WEEK DATE	TEACHING CONTENT	MARKING WEIGHTAGE
1 07.06.22	Site analysis and representation of Data collated	
2 14.06.22	Preparation of Site and Master Plan (design and Representation)	
3 21.06.22	Guidelines to work with Eco sensitive Sites	
4 28.06.22	Guidelines to work with Brownfield or adapted re-use	
5 5.07.22	Energy Efficient Building systems and EPI	
6 12.07.22	Green Rating systems and their Implementation	
7 19.07.22	Façade Development (design material, construction details)	
8 26.07.22	Case Studies on types of Facades	
9 2.08.22	Case Studies - Biomimicry	75 marks
10 9.08.22	Post Occupancy Evaluation for Housing projects in Mumbai (Rehabilitations and Resettlement Schemes)	
11 16.08.22	Site Services and Techniques (Service oriented building typologies)	
12 23.08.22	MCQ Test	25 marks
13 30.08.22	Waste recycles upcycle techniques and systems	
14 13.09.22	Eco Villages and Sustainable Living Systems	
15 20.09.22	Zero Energy Buildings	
16 27.09.22	EVS Representation Techniques on Data and Design	

LEARNING OUTCOMES: Knowledge and understanding of Environmental systems to be incorporated with their architectural design project

READING LIST/ 1 Handbook on Energy conscious buildings, 2 Environmental planning Anne Beer, 3 Skyscrapers, Ken Yeang, 4 Ecological Architecture, 5 Soleri, 6 Energy Efficient buildings, 7 Environments, Technology and sustainability and Design with Nature, 9 Sustainable building in practices, 10 Responsive environments, 11 Ecohouse, 12 Green Architecture, 13 Natural Ventilation in Urban Environment, Greening Asia by Krishanan, Aquatecture by Robert Barker, Atlas for Sustainable Architecture by Pframtmter

CO-PO mapped syllabi of B.Arch Course 2022-2023 – Environmental Studies 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: Environmental Studies 4
Course Code: BARC 906

Sem 09

Name – Fifth Year

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 tool kits to arrive /derive efficient building solutions and environmental strategies for adaptation and mitigation to address challenges of climate change.

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 : 2022-2023	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	Subject:	Subject code	Sessional Marks:	Exercise of 01: Marks out	Credits :	Date of submission	Upgrade 01	Upgrade 02	
FIFTH YEAR-SEM9	ABS	BARC 908	50	50	1 of 2 ABS and 1 of 2 ABC	02.08.2022			
Exercise: Title	Case Study Presentation - Biomimicry								
Exercise Note / Task	Case Study presentations on environment-sensitive architectural projects								
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 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 incorporating the minimum requirements	Arbitrariness and Adhoc Inquiry

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 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 on 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
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 “PG program”									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To identify the area of interest specific to environmental revelation.	2	3	3	2	1	1	2	1
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.	2	3	1	2	1	0	2	2

CO3	To gain holistic understanding of urban sustainability while focusing on understanding sustainable development goals.	3	2	2	3	2	2	2	3
CO4	To be able to understand current urbanization-induced environmental challenges and further manage architectural complexities within urban/rural environments.	2	3	2	1	2	2	2	1

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

COURSE CODE	APP 033	CREDITS	
COURSE NAME	Situating Practice	SESSIONAL MARKS	50
FACULTY	Mamta, Karan	EXAM SCHEME	50
CLASS DAY/TIME	Monday 12 00 to 12 50; 1 20 to 3 00	NON-CLASS TIME	nil

PEDAGOGIC INTENT	<p>The course will explore the phenomenon of Housing financialization and the trajectory of Dirigiste to neo dirigiste policies in the city from pre-independent times. For example, it will study the politics of the rent control act and its implications and the trajectory of tools implemented for procuring land in the city for housing through various acts.</p> <p>Domain of Positioning II</p> <p>The students will analyse the findings from sem 7 and 8 and try to operationalize the idea of situated practice by creating a 'taxonomy' based on how the various practices describe themselves, how they are placed within the current context and how they may have evolved. They will also be asked to imagine their own position within that spectrum</p>
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COURSE METHODOLOGY	<p>Evaluation of professional roles and practices; emergence of new modes of practice, including innovative facilities procurement methods.</p> <p>Lectures, Interviews Readings</p>
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	11-07-22	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.		
2	18-07-22	Discussion on escalation in demand for affordable housing post-independence. Formulation of various bodies and policies pre and post-independence	Mapping practice exercise	
3	25-07-22	Easement Act, Land Acquisition Act and their implications		
4	01-08-22	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.		
5	08-08-22	Repair and Dilapidation, Cessed building scenario, role of MHADA in redevelopment of cessed buildings(Incentivization of FSI)		
6	15-08-22	HOLIDAY		
7	22-08-22	Standard Rent - Introduction, types of rent		
8	29-08-22	Dichotomy of demand and supply of affordable housing, financialization of housing as a resultant of FSI Incentivization)		
9	05-09-22	Selection of MHADA layout and individual sites dealing with affordable housing, sites with slum encroachment and SRA schemes. Discussing the redevelopment scenario with respect to creation of affordable housing		
10	12-09-22	Introduction to case study. Site study. Understanding of FSI norms as per DCR 2034		
11	19-09-22	Working Studio for the domain of positioning		
12	26-09-22	Working Studio for the domain of positioning		
13	03-10-22	Working Studio for the domain of positioning		
14	10-10-22	Presentations		
15	17-10-22	Presentations		

LEARNING OUTCOMES	As future professionals, the course aims at trying to make students aware of this spectrum and asks them to imagine their own position in it. Towards this end, (maybe a few years), the students will be asked to analyse the findings and try to operationalize the idea of situated practice by creating a 'taxonomy' based on how the various practices describe themselves, how they are placed within the current context and how they may have evolved
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READING LIST/ REFERENCES	Law of Easements by Amin & Shastry. Architecture's "Political Compass": A Taxonomy of Emerging Architecture in One Diagram by Alejandro Zaera-Polo & Guillermo Fernandez Abascal
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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 and examine the various practices describe themselves, how they are placed within the current context and how they may have evolved.

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 understand how individuals/practices have situated themselves within the architectural profession
CO3	To evaluate the various positions taken by contemporary practices and imagine their own position within that spectrum

Rubrics:

Year of Assessment: 2022-2023	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				
22-23 FIFTH YEAR - SEM 9	Professional Practice II	BARC 910		50	3					
Exercise: Title	Positions taken up by contemporary practices as a result of the myriad forces and influences faced by them									
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 understand how individuals/practices have situated themselves within the architectural profession	3	1	2	1	3	2	2	3
CO3	To evaluate the various positions taken by contemporary practices and imagine their own position within that spectrum	2	0	1	1	3	3	3	3

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

COURSE CODE	BARD 911	CREDITS	4
COURSE NAME	Design Dissertation	SESSIONAL MARKS	100
FACULTY	Aneerudha, Manoj, Ainsley, Rohan, Pinkish, Jamshid, Vikram, Sonal, Shweta, Mamta Kimaya, George, Ginella, Minal,	EXAM SCHEME	Viva-Voce (100 Marks)
CLASS DAY/TIME	1:20-4:00 (Tuesday) & 9:00-12:20 (Wednesday)	NON-CLASS TIME	-

PEDAGOGIC INTENT	The intent of the course is to make the students realise and manifest their research concerns into architectural projects with an awareness of the rigour of the architectural profession.
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COURSE METHODOLOGY	Weekly meetings with individual guides. This is followed up with a monthly discussion with allied faculties.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
Week 1	6 July 2022	Defining Area of Study		
Week 2	12 July 2022	Defining Area of Study		
	13 July 2022	Lecture: What is a Thesis?		
Week 3	19 July 2022	Defining Area of Study		
	20 July 2022	Defining Area of Study		
Week 4	26 July 2022	Preparing a Reading List		
	27 July 2022	Lecture: On Representation		
	30 July 2022	Thesis Intent - aim & objectives	Thesis Jury (Saturday)	
Week 5	2 August 2022	Building a repository of Images/ Ideas		
	3 August 2022	Presentation: Volume Case Study 1		
Week 6	9 August 2022	Developing an Argument Structure		
	10 August 2022	Lecture on Academic Ethics		
Week 7	16 August 2022	Preparing an Abstract		
	17 August 2022	Using Images as Arguments		
	20 August 2022	Site Study, Methodology	Thesis Jury (Saturday)	
Week 8	23 August 2022	Framing a Title		
	24 August 2022	Presentation: Volume Case Study 2		
Week 9	30 August 2022	Writing the Introduction		
	31 August 2022	Lecture: Styles and Conventions of Research Writing		
Week 10	6 Sept 2022	Writing the Introduction		
	7 Sept 2022	Presentation: Volume Case Study 3		
Week 11	13 Sept 2022	Writing the Conclusion		
	14 Sept 2022	Writing the Conclusion		
	17 Sept 2022	Site Study & Analysis	Thesis Jury (Saturday)	
Week 12	20 Sept 2022	Writing the Chapters		

	21 Sept 2022	Writing the Chapters
Week 13	27 Sept 2022	Writing the Chapters
	28 Sept 2022	Writing the Chapters
Week 14	4 October 2022	Writing the Chapters
	5 October 2022	Writing the Chapters
	8 October 2022	First Draft of Final Thesis Thesis Jury (Saturday)
Week 15	11 October 2022	Writing the Chapters
	12 October 2022	Writing the Chapters
Week 16	18 October 2022	

LEARNING OUTCOMES
READING LIST/ REFERENCES

CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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 - 2022-2023

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: 2022-2023	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
2022-2023	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.	Poor argument 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 “PG 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

COURSE CODE	320 (TTS022)	CREDITS	
COURSE NAME	Architecture Theory : City Autopsies	SESSIONAL MARKS	100
FACULTY	Sonal Sundararajan, Rutika Parulkar, and Aishwarya Padmanabhan	EXAM SCHEME	NIL
CLASS DAY/TIME	Friday / 1.20 – 3.00pm	NON-CLASS TIME	-1 hr/week

PEDAGOGIC INTENT	The course runs parallel to the design dissertation programme in the fifth year. It seeks to open out the idea of critical enquiry and method through the reading and analysis of cultural objects or phenomena. Students will be introduced to theoretical concepts that will serve as a loose history of suspicion around the structures of knowledge or knowing the world- the structures of Language, anthropocentrism, conceptions of history, identities etc. which will serve as critical questions or mirrors to their enquiries into the city. The course aims to open the creative and critical possibilities of theory and to understand its relationship with the world that surrounds us. The course also looks at how these shifts inform interrogations of method and form in the city as it is conceptualized, represented, produced and lived. The assignment will engage the students in groups to employ the theoretical concepts as probes to conduct autopsies of the body of the city.
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COURSE METHODOLOGY	Key concepts will be introduced through lectures by faculty and students will develop their method of analysis to read the city. Classes will be conducted in the form of lecture presentations that introduce , movie screenings , reviews and student presentations.
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LECT	DATE	TEACHING CONTENT
1	17.06.2022	Introducing frameworks for analysis and the course. Screening of Gleaners by Agnes Varda, Introduction to the Arcades Project by Walter Benjamin.
2	24.06.2022	Glossary - 40 What makes up the city - ABCD - make list of words in class and then we curate it and reduce it

3	01.07.2022	NO CLASS
4	08.07.2022	INTRODUCTION TO STRUCTURALISM. LANGUAGE AS A SYSTEM OF ORDERING THE WORLD. The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical MaleFemale Roles Emily Martin 1991
5	15.07.2022	Students Presentation - (Groups of 4) Analysis of the discourse and representation of the term or urban phenomena under consideration.
6	22.07.2022	Class Reading - Introductory chapter and excerpts from The Production of Space by Henri Lefebvre.
7	29.07.2022	Other spaces - slow reading - Class exercise and discussion.
8	05.08.2022	Collage and other critical deconstructivist methods.
9	12.08.2022	Students Presentation- Collage as a critical method of displacement, deconstruction.
10	19.08.2022	Theories of the Other. Looking from the Margins to the Centre.
11	26.08.2022	Theories of the Other. Looking from the Margins to the Centre. Discussions on the terms
12	02.09.2022	Presentation of the glossary
13	09.09.2022	submission and presentations
14	16.09.2022	submission and presentations
15	23.09.2022	submission and presentations

LEARNING OUTCOMES	The students will be exposed to different frameworks of analysis and skills of critical thinking. A compilation of the collective narratives that the class builds about the city will be created as the final output of the assignment.
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**READING LIST/
REFERENCES**

1. Lefebvre, Henri, 1901-1991. **Production of Space**. Oxford, OX, UK ; Cambridge, Mass., USA : Blackwell, 1991
2. **Butler, J.** (1990) **Gender Trouble: Feminism and the Subversion of Identity**. Routledge, New York,
3. Michel Foucault and Jay Miskowiec, **Of Other Spaces**, *Diacritics* Vol. 16, No. 1 (Spring, 1986),
4. The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical MaleFemale Roles Emily Martin 1991
5. Barthes, Roland, *Mythologies*. Paris, Editions du Seuil, 1957.
6. Alexander, Christopher., Sara Ishikawa, and Murray Silverstein. **A Pattern Language: Towns, Buildings, Construction**. New York: Oxford University Press, 1977.
7. Benjamin, Walter, and Rolf Tiedemann. **The Arcades Project**. Cambridge, Mass: Belknap Press, 1999. Print
8. <https://www.ianmonroe.net/collage-1>
9. Maria-Carolina Cambre (2013). **Immanence and Collage Heuristics**. *Visual Arts Research*, 39(1), 70–89.

CO-PO mapped syllabi of B.Arch Course 2021-2022 Elective 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 : Elective 8

Course Code: BARE 921

Sem 09

Name of the Year - 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: 2021-2022	USM's Kamla Raheja Vidyaniidhi 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 09	Elective 8 (Advanced Theories)	BARE 921	100	100	2	12.08.2022			
Exercise: Title	Collage as a critical method of displacement, deconstruction.								
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.								
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									
Illustration and understanding of spatial dimensions within the concept	Exceptional selection of examples to illustrate and analyse the concept and its spatial manifestations.	Outstanding selection of examples to illustrate and analyse the concept and its	Impressive attempt of selection of examples to illustrate and analyse the concept and its spatial manifestations. Outstanding	Excellent Demonstrative selection of examples to illustrate and analyse the concept and its spatial manifestation	A very good selection of examples to illustrate and analyse the concept	Attempts to present selection of examples to illustrate and analyse the concept and its spatial	No clarity in selection of examples and further enquiry. Barely encourage s a	A careless selection of unrelated examples, disconnected selection of examples	Does not complete the assignment

al framework.	Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.	Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.	Excellent representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.	s. Excellent representation and comparative frameworks utilised.	and its spatial manifestations.	manifestations.	discussion. Needs clarity	that in no way relate to the concept and question	
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
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 09

CO-PO mapping for a course of "PG 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

Semester 10

Scheme of Teaching and Examinations

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

Semester X

COURSE CODE.	Semester X Exam conducted by University of Mumbai COURSES	Teaching Scheme		Credits		
		Lecture	Studio	Theory	Studio	Total
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

COURSE CODE	Semester X Exam conducted by University of Mumbai COURSES	Examination Scheme			
		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	Technology Lecture 2 (EVS)	Technology studio (ARD)	Design Dissertation	Design Dissertation	Technology studio (ARD)	
	BARC1006 2EVS	BARC1007/BARC1006 3 ARD +1EVS	BARD 1011 4 of 16	BARD 1011 4 of 16	BARC1007/BARC1012 3ARD +1ABC	
8.50 - 9.40	Kimayav , Ahana , Saurabh					
9.40 - 10.30	Situating Practice	Jamshid , Kimaya, Minal, Jay B Vikram , Shantanu P Mamta , Nemish	neerudha, Manoj, Ainsley, Rohan, Jamshid, Vikram, Sonal, Shweta, Kimaya, George, Ginella, Minal, Dharmesh, Shirish, Mamta, Rutika, Aishwarya Nemish, Jude, Shantanu P, Shantanu K, Paul, Swati S	neerudha, Manoj, Ainsley, Rohan, Jamshid, Vikram, Sonal, Shweta, Kimaya, George, Ginella, Minal, Dharmesh, Shirish, Mamta, Rutika, Aishwarya Nemish, Jude, Shantanu P, Shantanu K, Paul, Swati S	Jamshid , Kimaya, Minal, Jay B Vikram , Shantanu P Mamta , Nemish	
	BARC 1010 2PP					
10.30 - 11.20	Mamata, Shantanu K					
11.20 - 12.00	B R E A K					
12.00-12.50		Design Dissertation		Design Dissertation	ENCOUNTERS	
12.50 - 1.20	L U N C H B R E A K					
1.20 - 2.10	Technology Lecture 1 (ABC)	Design Dissertation	Architectural Theory	Design Dissertation	Design Dissertation	
	BARC1012 2 ABC	BARD 1011 3 of 16	BARC1009 2 AT	BARD 1011 3 of 16	BARD 1011 2 of 16 DD	
2.10 - 3.00	Jimmy Vikram Dharmesh		Rutika, Sonal, Aishwarya			
32+4Elective=36 credits		6	7	6	7	6

COURSE CODE	EVS10, BARC 1006	CREDITS	2
COURSE NAME	Environmental Studies 5	SESSIONAL MARKS	100
FACULTY	Kimaya K, Ahana S, Saurabh B	EXAM SCHEME	Internal
CLASS DAY/TIME	Monday 9.40am – 11.20am	NON-CLASS TIME	2 hours

Pedagogy Content: The discourse of Environmental Studies involves an in-depth understanding of the climate, weather patterns, environmental systems, building physics and the inter-relationship between them. Environmental Studies within the architecture curriculum form an extremely critical part of the five-year Architectural education and master's programs on Urban Design and Urban Conservation at KRVIA. At KRVIA, we encourage students to discern the relationships between the environment and architecture to understand its spatial and systemic implications. More than mastering the skill to make well-informed design decisions; a student needs to learn and enjoy the process of design from its inception to its execution and beyond. The building envelope wrapped around the architectural space negotiates with the climate and its constantly changing parameters. The atmosphere within and around the building requires a strategic curation that balances pragmatics, poetics, and functional precision. At KRVIA, the processes are designed not only to inculcate a sense of ideation regarding climate-responsive architecture but also an integrate at all stages of the building design process and the lifecycle of the building.

Methodology: The Sem 10 course acts as a facilitator and a capacity-building workshop to inform their design dissertation projects on holistic parameters concerning environmental design systems. The students engage at regional and urban scales dealing with diverse issues concerning urban/rural development and sustainability parameters to be achieved to ensure low energy-intensive building systems and a low ecological footprint. Choosing appropriate case studies based on the thesis area of inquiry a detailed discussion is carried out to understand the nuances of the design process, various tools and frameworks created during the site and data analysis.

WEEK	DATE	TEACHING CONTENT
1	21.11.22	Making of a Masterplan (design and Representation (Ahana Sarkar and Saurabh Barde)
2	28.11.22	Guidelines to work with Brownfield or adapted re-use (Kimaya Keluskar & Saurabh Barde)
3	05.12.22	Green Rating system - Saurabh Barde
4	12.12.22	Case studies on Green Rating systems (Building and site level) Saurabh Barade
5	19.12.22	Dynamic facade development- Computational - Bhavin special lecture
6	09.01.22	Introduction to biomimicry and biophilic designs - Kimaya Keluskar
7	16.01.22	Case Study: Biomimicry and Biophilic Design - Kimaya Keluskar
8	23.01.22	Urban Sustainability and introduction to sustainable development goals (SDGs) - Ahana Sarkar
9	30.01.22	SDG - Heritage and Cultural Conservation - Kimaya Keluskar
10	06.02.22	Introduction to concepts of liveable city, walkable city, sponge city, compact city - Ahana Sarkar / Submission of Case study presentation
11	13.02.22	Sustainable mobility - Ahana Sarkar
12	27.02.22	Urban ecology, details of EcoVillages and Sustainable Living Systems- Saurabh Barde
13	06.03.22	Hospital design (services) - Saurabh Barde
14	14.03.22	Zero / Net Zero Energy Buildings - Kimaya Keluskar

Reading List : 1 Handbook on Energy conscious buildings, 2 Environmental planning Anne Beer, 3 Skyscrapers, KenYeang, 4 Ecological Architecture, 5 Soleri, 6 Energy Efficient buildings, 7 Environments, Technology and sustainability and Design with Nature, 9 Sustainable building in practices, 10 Responsive environments, 11 Ecohouse, 12 Green Architecture, 13 Natural Ventilation in Urban Environment, Greening Asia by Krishanan, Aquatecture by Robert Barker , Atlas for Sustainable Architecture by P Frammter

Learning Outcome: Well-informed about various process tools and frameworks involved in creating sustainable building solutions, energy-efficient building systems, higher adaptability strategies and low ecological as well as carbon footprint.

CO-PO mapped syllabi of B.Arch Course 2022-2023 – Environmental Studies 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: Environmental Studies 5

Course Code: BARC 1006

Sem 10

Name – Fifth Year

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 tool kits to arrive /derive efficient building solutions and environmental strategies for adaptation and mitigation to address challenges of climate change.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	To develop an understanding to conduct post-occupancy studies in 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 neighbourhoods level.
CO4	Be proficient with ideas of sustainability, Net zero energy buildings, dynamic façade systems etc. that address climate adaptation and mitigation strategies.

Rubrics:

Year of Assessment : 2022 - 2023	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
Year & Sem	Subject:	Subject code	Sessional Marks:	Exercise of 01: Marks out	Credits :	Date of submission	Upgrade 01	Upgrade 02	
FIFTH YEAR-SEM10	EVS	BARC 1006	100	100	2EVS	06.02.2023			
Exercise: Title	Case Study Presentation								
Exercise Note / Task	Case Study presentations on environment-sensitive architectural projects								
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 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 incorporating the minimum requirements	Arbitrary and Adhoc Inquiry

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 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
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 10

CO-PO mapping for a course of “PG program”									
Sr. No.	CO description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	To develop an understanding to conduct post-occupancy 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	0	2	2

CO3	To apply interdisciplinary approaches such as ecology, economics, ethics, and policy to devise solutions to environmental problems at regional and neighbourhoods level.	3	2	2	3	2	2	2	3
CO4	Be proficient with ideas of sustainability, Net zero energy buildings, dynamic façade systems etc. that address climate adaptation and mitigation strategies.	2	3	2	1	2	2	2	1

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

COURSE CODE	BARC 1007	CREDITS	6
COURSE NAME	Architectural Representation & Detailing 9	SESSIONAL MARKS	100
FACULTY	Jamshid, Kimaya, Minal, Jai B, Vikram, Shantanu P, Mamta, Nemish	EXAM SCHEME	Internal
CLASS DAY/TIME	Tuesday / 8.00 – 11.20pm Friday / 8.00 – 11.20am	NON-CLASS TIME	

PEDAGOGIC INTENT	<p>To help them to pursue research interests, investigation and writing in systemic and material understanding of both Tectonic as well as Environmental issues and their solutions,</p> <p>To explore complex built forms and expand horizon through discussions and digital and physical iterations.</p> <p>To encourage integration of technical interests and findings with thesis objectives or in the subsequent resolution of their design dissertations.</p> <p>Prepare the student to integrate a detailed understanding of material, construction and environmental systems within their design dissertations.</p> <p>To provide possible support for the student to make choices of varying specialisations for holistic evolution of their design dissertations.</p>
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COURSE METHODOLOGY	<p>One to One interactions between faculty and students.</p> <p>Understanding the design dissertation interest and Identifying technological topics/ field of interest which could relate to the design dissertation.</p> <p>Explorations of the subject through secondary data.</p> <p>Writing exercises to consolidate learnings of the secondary data.</p> <p>Periodic reviews of their progress.</p>
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LEARNING OUTCOMES	<ul style="list-style-type: none"> • Research skills related to systemic and material understanding of both Tectonic as well as Environmental issues and their solutions. • Articulation of technological explorations and possible overlaps with design dissertation.
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LECT	DATE	TEACHING CONTENT
1	20.09.2022	Introduction, Faculty student interactions to understand thesis interests and possible technological trajectories
	23.09.2022	Topic of technological exploration

2	27.09.2022	Working studio
	30.09.2022	Case studies and literature review
3	07.12.2022	Elective
	10.12.2022	Review 1
4	13.12.2022	Review 1- grading 1
	14.12.2022	Diagrams and modelling
5	19.12.2022	Review 2- Grading 2
	21.12.2022	Exercises of Analysis (physical/ virtual)
6	02.02.2023	Draft paper- grading 3
	04.02.2023	Iterations and Edits
7	10.02.2023	Completing Referencing and citations
	14.01.2023	Poster submission (prefinal)
8	17.01.2023	Final Poster presentation

CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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).
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 9*

Course Code: **BARC 1007**

Sem 10

Name - 2022-23

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: 2021-2022	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

COURSE CODE	BARE 921	CREDITS	2
COURSE NAME		SESSIONAL MARKS	100
FACULTY	Rutika Parulkar, Aishwarya Padmanabhan, Sonal Sundararajan	EXAM SCHEME	NIL
CLASS DAY/TIME	100 MINUTES	NON-CLASS TIME	-30 MINUTES ER WEEK

PEDAGOGIC INTENT **Architecture in the Anthropocene**-The architectural theory course will engage with the shifts in conceptualizations of bodies, space and ecologies in the Anthropocene and thinking architecture through these notions. Architectural thinking like our everyday lives must now intersect and traverse the imaginable scales of the microscopic, viral, fluid, connected and fragile world that we inhabit, The course will look at three larger themes - the critique of history conceptualized as progress, imagining architecture beyond anthropocentrism in order to attempt to displace and recast fundamental presumptions of architectural thinking and practice.

COURSE METHODOLOGY The three thematic will be broken up into several smaller ideas- introduced through special lectures, presentations and reading material, films. These will be punctuated with interactive discussion sessions that will employ Miro Boards and other tools, to allow for collective participation and thinking. The marking will be based individual contributions to collective assignment on looking at the questions around spaces and obsolescence/waste.

Week 15	21.02.2023	Elective
Week 16	28.02.2023	<i>Spatial/architectural Cyborgs - Discussion and presentations</i>
Week 17	7.03.2023	<i>Spatial/architectural Cyborgs - Discussion and presentations</i>
Week 18	14.03.2023	Condonation

READING LIST/ REFERENCES

A Cyborg Manifesto: Science, technology, and Socialist-Feminism in the Late Twentieth Century, in Simians, Cyborgs, and Women: The Reinvention of Nature, Donna J.Haraway,

The Companion Species Manifesto : Dogs, People, and Significant Otherness. Haraway, Donna

Gender Trouble - Judith Butler

Orientalism - Western Conceptions of the Orient - Edward Said

Queer Phenomenology - Sara Ahmed

Of the Other spaces - Utopias and Heterotopias *Architecture /Mouvement/ Continuité* October, 1984;MICHEL FOUCAULT

Learning Outcomes Students will be exposed to the works of philosophers and architects that are engaging with the transformed understandings of nature-cultures in our lives. They will derive and develop their frameworks and tools for analysis from these examples, within class discussions and assignments that lead them into a critical reflection of their contemporary landscape.

LECT	DATE	TEACHING CONTENT
week 1	15.11.22	Introduction + Orientalism - The Spatial Other (Battle of Algiers)
week 2	22.11.2022	The idea of the Orient
Week 3	29.11.2022	Other Spaces - Close reading (Introduction to production of space)
Week 4	6.12.2022	Other Spaces - Reading and Discussion
Week 5	13.12.2022	<i>Submission and Presentation - other spaces</i>
Week 6	20.12.2022	<i>Submission and Presentation - other spaces</i>
Week 7	27.12.2022	Christmas break
Week 8	3.01.2023	Troubled Bodies - Gender , Gender trouble / Sarah Ahmed
Week 9	10.01.2023	This Examined Life - Judith Butler
Week 10	17.01.2023	Pathological Space (Lecture)
Week 11	24.01.2023	<i>Submission and Presentation</i>
Week 12	31.01.2023	Companion species Manifesto Reading
Week 13	7.02.2023	Manga - Princess Mononoke
Week 14	14.02.2023	The Cyborg Manifesto - Thinking Beyond Binaries (Reading)

CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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.

Year of Assessment: 2022-23		USM's Kamla Raheja Vidyaniidhi 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	Upgarde 01	Upgrade 02
2022-23 Sem 10	Architectural Theory	ATH022	BARC 1009	100	40		20th December		
Exercise: Title	OTHER SPACES								
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.								
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 interpretation of the given theoretical text	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.
Illustration and understanding of spatial dimensions within the conceptual framework.	Exceptional selection of examples to illustrate and analyse the concept and its spatial manifestations. Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.	Outstanding selection of examples to illustrate and analyse the concept and its spatial manifestations. Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.	Outstanding selection of examples to illustrate and analyse the concept and its spatial manifestations. Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.	Excellent selection of examples to illustrate and analyse the concept and its spatial manifestations. Excellent representation and comparative frameworks utilised.	A very good selection of examples to illustrate and analyse the concept and its spatial manifestations.	A good selection of examples to illustrate and analyse the concept and its spatial manifestations.	Above average selection of examples to illustrate and analyse the concept and its spatial manifestations.	An average selection of examples to illustrate and analyse the concept and its spatial manifestations.	A careless selection of unrelated examples, disconnected selection of examples that in no way relate to the concept and question.
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. Exceptionally clear and Original conceptual diagrams and references made. Exceptionally clear connections between all three stages of the process made as a conclusion.	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. Exceptionally clear and Original conceptual diagrams and references made. Exceptionally clear connections between all three stages of the process made as a conclusion.	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. Outstandingly clear and Original conceptual diagrams and references made. Outstandingly clear connections between all three stages of the process made as a conclusion.	Excellent Ability to critically examine and raise new possibilities and questions within the conceptual framework. Original conceptual diagrams and references made. A clear connections between all three stages of the process made as a reflection on the investigation.	A very good ability to critically examine and raise new possibilities and questions within the conceptual framework.	A good ability to critically examine and raise new possibilities and questions within the conceptual framework.	Above average Ability to critically examine and raise new possibilities and questions within the conceptual framework. The use of clear diagrams and representation techniques to clarify concepts.	A average Ability to critically examine and raise new possibilities and questions within the conceptual framework. The use of clear diagrams and representation techniques to clarify concepts.	No attempt to think through the concept and its applications to spatial thinking.

Attendance, time management and participation in Studio	100%	95% -99%	91-94%	85-90%	81-84%	75-80%	70-74%	60-69%	Below 60%
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Year & Sem	Subject:	Subject Code	University Subject Code	Sessional Marks:	Exercise 01: Marks out of	Credits	Date of submission	Upgarde 01	Upgrade 02
2022-23 Sem 10	Architectural	ATH022	BARC 1009	100	40		24th		
Exercise: Title	PATHOLOGICAL SPACE								
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.								
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 interpretation of the given theoretical text	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.
Illustration and understanding of spatial dimensions within the conceptual framework.	Exceptional selection of examples to illustrate and analyse the concept and its spatial manifestations. Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.	Outstanding selection of examples to illustrate and analyse the concept and its spatial manifestations. Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.	Outstanding selection of examples to illustrate and analyse the concept and its spatial manifestations. Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.	Excellent selection of examples to illustrate and analyse the concept and its spatial manifestations. Excellent representation and comparative frameworks utilised	A very good selection of examples to illustrate and analyse the concept and its spatial manifestations.	A good selection of examples to illustrate and analyse the concept and its spatial manifestations.	Above average selection of examples to illustrate and analyse the concept and its spatial manifestations.	An average selection of examples to illustrate and analyse the concept and its spatial manifestations.	A careless selection of unrelated examples, disconnected selection of examples that in no way relate to the concept and question.


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. Exceptionally clear and Original conceptual diagrams and references made. Exceptionally clear connections between all three stages of the process made as a conclusion.	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. Exceptionally clear and Original conceptual diagrams and references made. Exceptionally clear connections between all three stages of the process made as a conclusion.	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. Outstandingly clear and Original conceptual diagrams and references made. Outstandingly clear connections between all three stages of the process made as a conclusion.	Excellent Ability to critically examine and raise new possibilities and questions within the conceptual framework. Original conceptual diagrams and references made. A clear connections between all three stages of the process made as a reflection on the investigation.	A very good ability to critically examine and raise new possibilities and questions within the conceptual framework.	A good ability to critically examine and raise new possibilities and questions within the conceptual framework.	Above average Ability to critically examine and raise new possibilities and questions within the conceptual framework. The use of clear diagrams and representation techniques to clarify concepts.	A average Ability to critically examine and raise new possibilities and questions within the conceptual framework. The use of clear diagrams and representation techniques to clarify concepts.	No attempt to think through the concept and its applications to spatial thinking.
Attendance, time management and participation in Studio	100%	95% -99%	91-94%	85-90%	81-84%	75-80%	70-74%	60-69%	Below 60%

Year & Sem	Subject:	Subject Code	University Subject Code	Sessional Marks:	Exercise 01: Marks out of	Credits	Date of submission	Upgarde 01	Upgrade 02
2022-23 Sem 10	Architectural Theory	ATH022	BARC 1009	100	40		28th February		
Exercise: Title	CYBORG ARCHITECTURES								
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.								
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 interpretation of the given theoretical text	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.

<p>Illustration and understanding of spatial dimensions within the conceptual framework.</p>	<p>Exceptional selection of examples to illustrate and analyse the concept and its spatial manifestations. Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.</p>	<p>Outstanding selection of examples to illustrate and analyse the concept and its spatial manifestations. Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.</p>	<p>Outstanding selection of examples to illustrate and analyse the concept and its spatial manifestations. Outstanding representation techniques and comparative frameworks utilised. Original conceptual diagrams and references made.</p>	<p>Excellent selection of examples to illustrate and analyse the concept and its spatial manifestations. Excellent representation and comparative frameworks utilised</p>	<p>A very good selection of examples to illustrate and analyse the concept and its spatial manifestations.</p>	<p>A good selection of examples to illustrate and analyse the concept and its spatial manifestations.</p>	<p>Above average selection of examples to illustrate and analyse the concept and its spatial manifestations.</p>	<p>An average selection of examples to illustrate and analyse the concept and its spatial manifestations.</p>	<p>A careless selection of unrelated examples, disconnected selection of examples that in no way relate to the concept and question.</p>
<p>Identifying new areas and possibilities within architectural or spatial thinking.</p>	<p>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. Exceptionally clear and Original conceptual diagrams and references made. Exceptionally clear connections between all three stages of the process made as a conclusion.</p>	<p>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. Exceptionally clear and Original conceptual diagrams and references made. Exceptionally clear connections between all three stages of the process made as a conclusion.</p>	<p>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. Outstandingly clear and Original conceptual diagrams and references made. Outstandingly clear connections between all three stages of the process made as a conclusion.</p>	<p>Excellent Ability to critically examine and raise new possibilities and questions within the conceptual framework. Original conceptual diagrams and references made. A clear connections between all three stages of the process made as a reflection on the investigation.</p>	<p>A very good ability to critically examine and raise new possibilities and questions within the conceptual framework.</p>	<p>A good ability to critically examine and raise new possibilities and questions within the conceptual framework.</p>	<p>Above average Ability to critically examine and raise new possibilities and questions within the conceptual framework. The use of clear diagrams and representation techniques to clarify concepts.</p>	<p>A average Ability to critically examine and raise new possibilities and questions within the conceptual framework. The use of clear diagrams and representation techniques to clarify concepts.</p>	<p>No attempt to think through the concept and its applications to spatial thinking.</p>
<p>Attendance, time management and participation in Studio</p>	<p>100%</p>	<p>95% -99%</p>	<p>91-94%</p>	<p>85-90%</p>	<p>81-84%</p>	<p>75-80%</p>	<p>70-74%</p>	<p>60-69%</p>	<p>Below 60%</p>

COURSE CODE	APP 044	CREDITS	
COURSE NAME	Situating Practice	SESSIONAL MARKS	50
FACULTY	Mamta, Karan	EXAM SCHEME	50
CLASS DAY/TIME	Monday 8 00 to 9 40	NON-CLASS TIME	nil

PEDAGOGIC INTENT	<p>Domain of Positioning II The course deals with the question of Land, planning and environment in relation with the existing housing stock in the city. It aims to understand the dichotomy between the demand and supply of affordable housing since independence and the attempt of planning tools to address it.</p> <p>Architecture is a situated practice which relates to the social, aesthetic, cultural, and technological zeitgeist. The practice may be seen to be leading this zeitgeist or trying to catch up to it. In India, architecture since independence has gone through several phases of evolution. Different practices have situated themselves in different ways in relation to the contexts. Some operate within the market, providing the specific expertise that the market now demands, while yet others may reject the influence of the market and operate outside of it. Yet others may fall somewhere between these extremes on a spectrum of situated practices</p> <p>The aim of the exercise is to provide students with a perspective on how practitioners have articulated their practice in relation to theories concerning their place in global movements in architecture, and the influences that shaped them. The study of the architecture will be used to explain one's position and the question of ethics and code of conduct will be explored out of that position.</p> <p>The repository that results will begin to build a framework around how these practices have situated themselves within various contexts and establish a powerful way of understanding contemporary practices.</p>
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COURSE METHOD	 <p>In Progress: Evaluation of professional roles and practices; emergence of new modes of practice, including innovative facilities procurement methods. Lectures, Secondary literature, Readings</p>
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
1	12/12/22	Introduction to Situating practice Learning from Timelines		
2	19/12/22	Drawing from Context, Ideology, landscape of practice, ethics, market conditions etc	Mapping practice exercise	50
3	02/01/23	Drawing from Context, Ideology, landscape of practice, ethics, market conditions etc		
4	09/01/23	Drawing from Context, Ideology, landscape of practice, ethics, market conditions etc		
5	16/01/23	Delving into details: Eg. Market practice		
6	23/01/23	Delving into details: Eg. Market practice - the financial strings		
7	30/01/23	Delving into details: Eg. Redevelopment practice		
8	06/02/23	Delving into details: Eg. Community based practice(Ketki)		
9	13/02/23	Delving into details: Eg. Conservation (Jamshid eg. Udwada)		
10	20/03/23	ELECTIVES/ ANNUALS		
11	27/02/23	Delving into details: Eg. Landscape (Sandeep)		
12	06/03/23	Delving into details: Eg. Academics (Shweta)		
13	13/03/23	Situating one's own practice: creating the blueprint		
14	20/03/23	Documentation		
15	27/03/23	Documentation		
16	03/04/23	Condonation		

LEARNING OUTCOMES	As future professionals, the course aims at trying to make students aware of this spectrum and asks them to imagine their own position in it. Towards this end, (maybe a few years), the students will be asked to analyse the findings and try to operationalize the idea of situated practice by creating a 'taxonomy' based on how the various practices describe themselves, how they are placed within the current context and how they may have evolved
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READING LIST/ REFERENCES	Architecture's "Political Compass": A Taxonomy of Emerging Architecture in One Diagram by Alejandro Zaera-Polo & Guillermo Fernandez Abascal
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CO-PO mapped syllabi of B.Arch Course 2022-2023 – 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 aim is to provide students with a perspective on how practitioners have articulated their practice in relation to theories concerning their place in global movements in architecture, and the influences that shaped them.

The repository that results will begin to build a framework around how these practices have situated themselves within various contexts and establish a powerful way of understanding contemporary practices.

Course Outcomes (CO):

Course Outcome (Co)	Description
CO1	The study and understand of the architecture will be used to explain one's position and the question of ethics and code of conduct will be explored out of that position.
CO2	To create a framework around how these practices have situated themselves within various contexts and establish a powerful way of understanding contemporary practices.
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: 2022-2023	USM's Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture									
22-23 FIFTH YEAR SEM 10	Subject:	University Subject Code	Sessional Marks: 50	Exercise 01 & 02: Marks out of	Credits	Date of submission				
FIFTH YEAR - SEM 10	Professional Practice III	BARC 1010		50	3					
Exercise: Title	Mapping Practices - Case Studies from India									
Exercise Note / Task	Working in small groups, students will be mapping practices from across the country, aiming to represent their study in the form of a taxonomy of practices									
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	

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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	The study of the architecture will be used to explain one’s position and the question of ethics and code of conduct will be explored out of that position.	2	1	2	1	3	2	2	2
CO2	To build a framework around how these practices have situated themselves within various contexts and establish a powerful way of understanding contemporary practices.	3	1	2	1	3	2	2	3
CO3	To understand ethical positions taken up by practices to contribute responsibly to the society, fellow professionals as well as the profession itself	2	0	1	2	3	3	3	3

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

COURSE CODE	BARC 1011	CREDITS	16
COURSE NAME	Design Dissertation	SESSIONAL MARKS	200
FACULTY	Aneerudha, Manoj, Ainsley, Rohan, Jamshid, Vikram, Sonal, Shweta, Kimaya, George, Ginella, Minal, Mamta	EXAM SCHEME	Viva-Voce (200 Marks)
CLASS DAY/TIME	8:00 to 3:00 (Tuesday & Friday)	NON-CLASS TIME	-

PEDAGOGIC INTENT	The intent of the course is to make the students realise and manifest their research concerns into architectural projects with an awareness of the rigour of the architectural profession.
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COURSE METHODOLOGY	Weekly meetings with individual guides. This is followed up with a monthly discussion with allied faculties.
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WEEK	DATE	TEACHING CONTENT	ASSIGNMENTS	MARKING WEIGHTAGE
Week 1	12 - 17 Dec 2022	Preparation for Jury		
Week 2	19 - 23 Dec 2022	The primary focus of the jury would be Site Analysis and Program Finalization Out of	Site Drawing and Analysis Program and Detailed area statement Building Services Ideas and Mapping of site services Spans that one might have in their building and the construction system to be used accordingly. Material ideas - Are you using frugal, simple materials or cutting edge innovative ones. Mapping of Environmental systems and climate response strategies	
Week 3	12-7 January 2022	Working Studio		
Week 4	9 -13 January 2022	Diagrams and Systems	Requirements: Design Diagrams and their placement on site Ideas of Systems : Structural systems Services systems Roofing Systems Ideas for fenestrations	
Week 5	16 - 20 January 2023	Working Studio		
Week 6	23 - 27 January 2023	Working Studio		
Week 7	30 Jan - 3 Feb 2023	Working Studio		
Week 8	6 -10 February 2023	Design Development	Requirements: Building Language Facade systems based on Language and Climatic Response Deep Structure Diagrams Relationship of all the above to the Design Diagram and Massing done previously	
Week 9	13 - 17 February 2023	Working Studio		
Week 10	20 - 24 February 2023	Working Studio		
Week 11	27 Feb - 3 March 2023	Design Resolution	Design Development Design Resolution	
Week 12	6 - 10 March 2023	Working Studio		
Week 13	13 -17 March 2023	Working Studio		
Week 14	20 - 24 March 2023	Symposium	All requirements as expected for the university jury	
Week 15	27 - 31 March 2023		The guide will mark overall for the Semester	
Week 16	3 - 7 April 2023			

LEARNING OUTCOMES

READING LIST/ REFERENCES

CO-PO mapped syllabi of B.Arch Course 2022-2023 – *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)
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4. To challenge students to evolve empathy and understanding to cultures outside of their own comfort

- zones. (Self / Other)
- To instill in students the ability to work within groups without sacrificing their own identity. (Individual / Collective)
 - To enable students to discover the relationship between material cultures and socio-economic systems (Technical / Social)
 - To enable students to understand questions of architectural form in relationship with the systems it is embedded in and emerges from. (Object / System)
 - 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 - 2022-2023

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: 2022-2023	USM's Kamla Raheja Vidyaniidhi Institute for Architecture and Environmental Studies / Bachelors of Architecture								
2022-2023	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 employed with great rigor, precision and neatness. The presentation is self-explanatory and shows an	Most of the architecture representation skills have been employed with great rigor, precision and neatness. The presentation is self-explanatory and shows an	Most of the architecture representation skills have been employed with great rigor, precision and neatness. The presentation is self-explanatory and shows an	Most of the architecture representation skills have been employed with great rigor, precision and neatness. The presentation is self-explanatory and shows an	Most of the architecture representation skills have been employed with great rigor, precision and neatness. The presentation is self-explanatory and shows a very good level of	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	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	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	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

exceptional level of skill in arranging and organization of a design project..	outstanding level of skill in arranging and organization of a design project..	of a design project..	level of skill in arranging and organization of a design project.	of a design project..	a design project.	organization a design project.	of skill in arranging and organization of a design project..	a design project.
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COPO Mapping Setup for Sem X.....

CO-PO mapping for a course of "PG 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

CO-PO mapped syllabi of B.Arch Course 2021-2022 – *Architectural Building Construction*

COURSE CODE	BARC 1012	CREDITS	3
COURSE NAME	Advanced Building Construction & Structures	SESSIONAL MARKS	100
FACULTY	Vikram, Jamshid, Dharmesh	EXAM SCHEME	
CLASS DAY/TIME	Monday / 1.20 – 3.00pm	NON-CLASS TIME	

PEDAGOGIC INTENT	Since the mandated syllabus was already covered by 9th semester, the scheduled Construction classes are intended to inspire the students to appreciate and acknowledge design thinking as a process which encompasses the manifestation of design ideas.
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COURSE METHODOLOGY	Curated theme based lectures; invited guests from alumni to present them based works; encouraging interactions and query of the relevance and working of a given technology.
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LECT	DATE	TEACHING CONTENT
1	19/9/22	Introduction
2	26/9/22	Temporal/ modular/ Dismantlable construction
3	3/10/22	Challenges of Intervening in Heritage sites
4	10/10/22	Construction challenges of Blue- Green Infrastructure- urban scale
5	17/10/22	Urban Infrastructure Construction
6	5/12/22	Construct of 'Net zero' architecture.
7	12/12/22	Bio-phillic architecture construction
8	19/12/22	Architecture of the 'Recycle'
9	26/12/22	Revision
10	2/1/23	Building craft with Robotics, Automation, Artificial Intelligence, Machine Learning
11	9/1/23	Reiterating Structural Concerns of built forms and their representation
12	16/1/23	Technical challenges of Insitu Upgradation
13	23/1/23	Closing session/ Recap/ Feedback

LEARNING OUTCOMES

An ability to question relevance of technologies traditional as well as contemporary; an appreciation of diverse technical solutions to an issue and evaluating them on short and long term sustenance basis

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 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: 2023-2024	USM's Kamla Raheja Vidyaniidhi 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 class	Attends less than 75 % of total class	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

CO-PO mapping for a course of "PG program"									
Sr. No.	CO description	PO 1	PO 2	PO 3	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

