M.V.P.S's College of Architecture, Nashik
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Criterion 1– Curricular Aspects

1.3 -Curriculum Enrichment

1.3.1

MVPS's College of Architecture

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Criterion 1 – Curricular Aspects

Key Indicator – 1.3 Curriculum Enrichment

1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

Sr. No.	Contents (Documents)
A)	**Description**
B)	**List of B. Arch courses which addresses crosscutting issue (Syllabus Pattern-2019,2015,2008)**
1	**Syllabus Details 2019 Pattern** • Letter of implementation of syllabus • Course structure of Syllabus which addresses crosscutting issues. • Course details of Syllabus which addresses crosscutting issues.
2	**Syllabus Details 2015 Pattern** • Letter of implementation of syllabus • Course structure of Syllabus which addresses crosscutting issues. • Course details of Syllabus which addresses crosscutting issues.
3	**Syllabus Details 2008 Pattern** • Letter of implementation of syllabus • Course structure of Syllabus which addresses crosscutting issues. • Course details of Syllabus which addresses crosscutting issues.
C)	**List of topics in Architectural Design Project course in B. Arch Programme which addresses crosscutting issue (from 2016-17 to 2020-21)**
D)	**List of events/ Programme/workshops/seminars etc.. organised by institute in B. Arch programme which addresses crosscutting issues (from 2016-17 to 2020- 21)**

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1.3.1

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

A) Description

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1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

Professional Ethics

- Architecture being a professional program, the Institute adheres and practices professional code of conduct as laid down by the Council of Architecture India & SPPU. (Pune University)
- Institute invites guest speakers Architects from profession every year to upgrade and update about the current practices and knowledge about professional ethics.
- Professional ethics are taken care by the course like Professional Practice at the B. Arch program
- The course of Practical Training included in the B Arch program includes the internship at various Architectural firms where the students practices professional ethics.
- The first year of B. Arch. Program includes the course "Communication skills & Presentation Skills" that improves the professional and communication skills.
- Industrial visits and participation of students in professional activities also add to their knowledge about professional ethics.

Gender

- Institute plans year round activities for the gender sensitization by organizing guest lectures on subjects like women's health and hygiene by the professional speakers. Participation of girl students and teachers is assured in decision-making and motivating the students for gender sensitization.
- In courses like Architectural Design students actively work on gender issues and find solutions through design sensibilities.

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Human Values

- To inculcate human values in the student's mindset, the B. Arch students are encouraged to work on projects incorporating universal design, social issues and Slum Redevelopment projects. Topics like Universal Design are introduced in Electives.
- The B. Arch curriculum encourages, Students to work on slums, disabled persons, informal sector, social issues etc... As a part of their Architectural Design course.

Environment and Sustainability

- The Institute's philosophy is "Co- existing with nature" It safeguards the environment and promotes various sustainable green practices by conducting various activities.
- The Institute has conducted numerous tree plantation activities as a part of their green initiative.
- The Institute organizes activities like Ganesh idol making in Shadu clay, to promote eco-friendly Ganesh festival.
- To promote sustainable and environment friendly material Bamboo workshop was conducted in the Institute.
- The Institute encourages the use of compost bin and segregates waste as a part of solid waste management.
- Every year as a part of the Annual Exhibition the students use waste material and create sculptures or 'Scraptures' as a part of the recycling and reuse of material.
- Rainwater harvesting is done via rain water recharge pit within the Campus.

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1.3.1

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

B) List of B. Arch courses which addresses crosscutting issue and Syllabus Details

(SyllabusPattern-2019,2015,2008)

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1.3.1 B)List of B. Arch courses which addresses crosscutting issues in (SyllabusPattern-2019,2015,2008)

No	Syllabus Pattern	Year of Introduction	Class	Course Code	Course Name	ISSUES ADDRESSED (Gender, Human Values, Environment and Sustainability, Professional Ethics)	Detail Description
1	2019	2019-20	First Year	121915(SS)	Fundamental of Architecture	Professional Ethics	Introduction to the profession of Architecture, its distinguishing characteristics with respect to other professions.
2				1201907(SS)	Communicatio n Skills	Professional Ethics	Enhance skills required for effective communication in Architectural education and practice.
3				1201909(SV)	Architectural Design I	Environment and Sustainability	Study & Analysis of a rural settlement and architecture wrt lifestyle, Climate and Solid structure.
4				1201909(SV)	Architectural Design I	Human Values	Designng in the context of the studied settlement.
5		2020-21	Second Year	2201917(SV)	Architectural Design II	Human Values	To introduce students to socio-cultural aspects like lifestyle, culture, traditions, and their effect on architectural design etc. To understand the concept and principles of universal designs.
6						Environment and Sustainability	To understand the Climatic aspects those have a bearing on architectural design and address climatic concerns like adequate light, ventilation, protection from rain, insulation, shading, heat gain, through passive strategies.
7				2201921(SS)	Computer Aided Drawing and Graphics	Professional Ethics	To enable the students to communicate an architectural idea / proposal in a legible and effectivemanner through various architectural presentations and rendering techniques.
8				2201922(SS)	History of Architecture & Culture III	Human Values	To understand the relationship of religion and society with architecture
9				2201925(SS)	Climatology	Environment and Sustainability	To understand climate as a determinant of architectural design and to enable the students to evolve climate responsive design.
10				2201926(SS)	Architectural Design III	Human Values	To introduce students to socio-cultural aspects like lifestyle, culture, traditions, and their effect on architectural design etc. To understand the concept and principles of universal designs.
11						Environment and Sustainability	To understand the Climatic aspects those have a bearing on architectural design and address climatic concerns like adequate light, ventilation, protection from rain, insulation, shading, heat gain, through passive strategies.
12				2201930(SS)	Environmental Science	Environment and Sustainability	Basic introduction to Multidisciplinary nature of environmental studies
13		2021-22	Third Year	3201935	Architectural Design IV	Human Values	To introduce students to socio-cultural aspects like lifestyle, culture, traditions, and their effect on architectural design etc. To understand the concept and principles of universal designs.
14						Environment and Sustainability	To understand the Climatic aspects those have a bearing on architectural design and address climatic concerns like adequate light, ventilation, protection from rain, insulation, shading, heat gain, through passive strategies
15				3201939(SS)	Landscape Architecture	Environment and Sustainability	Creating awareness about using Landscape design as a tool to address environmental concerns in Architecture.
16				3201939(SS)	Landscape Architecture	Human Values	Introducion to Landscape design and its scope and their application in achieving functional, Aesthetic, environmental and Cultural Goals.
17				3201940(SS)	Elective I (Contemporary Architecture)	Professional Ethics	To analyse the contemporary trends/approaches in architectural production in terms of design, practices, its perception, appreciation and critical discourses.
18				3201942(SS)	Building Services III	Environment and Sustainability	Principles of working of natural ventilation, heating, cooling and HVAC systems,components, materials and provisions in architectural design
19				3201943(SS)	Working Drawing I	Professional Ethics	To enable the students to prepare working drawings of an architectural project and imbibethe significance of working drawings from the point of view of execution of the work on siteand as important component of tender documents.
20				3201944(SS)	Architectural Design V	Human Values	To introduce students to socio-cultural aspects like lifestyle, culture, traditions, and their effect on architectural design etc. To understand the concept and principles of universal designs.
21						Environment and Sustainability	To understand the Climatic aspects those have a bearing on architectural design and address climatic concerns like adequate light, ventilation, protection from rain, insulation, shading, heat gain, through passive strategies.
22				3201952(SS)	Working Drawing II	Professional Ethics	To imbibe further the importance of working drawings as an essential tool for effective siteexecution and execution of a building contract.

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Sr. No.	Syllabus Pattern	Year of Introduction	Class	Course Code	Course Name	ISSUES ADDRESSED (Gender, Human Values, Environment and Sustainability, Professional Ethics)	Detail Description
23	2015	2015-16	First Year	1201506	Humanities	Human Values	To introduce the study of Humanities & its Imortance in understanding of human settlement and Architecture.
24				1201507	Introduction To Arch.	Professional Ethics	Introduction to the profession of Architecture, its distinguishing characteristics with respect to other professions.Scope of Architeture as a discipline and Architecture as a profession.
25				1201509	Design II	Human Values	To comprehend various design alternative processes like binary, cyclic, intutive, bio-mimicry etc. and the importance of literature, humanities and case studies in the design process. Study of nearby rural, semi urban settlement/ community for study, analysis and documentation of its built elements, open spaces and associated architectural character.
26				1201509	Design II	Environment and Sustainability	To comprehend the symbiotic relationship between creativity, arts, crafts, environment, human spatial experiance, structure with design.
27				1201515	Climatology	Environment and Sustainability	To understand Climate as a determinant of Architectural Design and to enable the students to evolve Climate Responsive design.
28		2016-17	Second Year	2201517(SS)	Design III	Environment and Sustainability	Aesthetical, Functional, Technical and Environmental(Climate, Socio-Geographic) aspects of Architectural design.
29				2201526(SS)	Design IV	Human Values	Study of settlement of a semi urban type community in an urban location and the analysis and documentation w.r.t. lifestyle of occupants, climatic and topographical response, semipublic built and open spaces and associated character.
30				2201526(SS)	Design IV	Environment and Sustainability	To Comprehend site specific stimuli through responses to physical, Climate, visual, cultural contexts through indegenious construction. Technology, building materials, strcture etc.
31				2201530(SS)	Building Services -II	Environment and Sustainability	Introduction to rainwater harvesting and alternative energy sources.
32				2201534	Working Drawing I	Professional Ethics	To enable students to prepare working drawings of an architectural project and imbibe the significance of working drawings from the point of view of execution of the work on site and as important component of tender documents.
33		2017-18	Third Year	3201535	Design V	Human Values	Designing in a different socio-geographic context.
34				3201535	Design V	Environment and Sustainability	Undertake programming research to understand socio-cultural patterns, geographic context and address the needs of the users and site and evolve a Sustainable Design
35				3201539(SS)	Landscape Arch.I	Environment and Sustainability	Creating awareness about using Landscape design as a tool to address Environmental Concerns in Architecture. Introducing to environmental concerns and sustainable site planning(rain water harvesting, solid wastye management, passive climatic control etc.)
36				3201540(SS)	Building Services -III	Environment and Sustainability	To obtain knowledge of technical and design aspects of Natural Ventilationand HVAC
37				3201543 (SS)	Working Drawing II	Professional Ethics	To imbibe further the impotance of working drawings as an essential tool for effective site execution and execution of a building contract.
38				3201544(SV)	Design VI	Human Values	Exposure to universal design or accessible design concept.
39				3201549(SS)	Landscape Arch.II	Environment and Sustainability	To study use of Landscape Design as a tool to address Environmental Concerns in Architecture. Introduction to site services like lighting, water management.
40				4201554 (SV)	Design VII	Human Values	Students are now expected to address spatial and visual language of their project with reference to the urban context and setting of their site.
41				4201556(PP)	Professional Practice I	Professional Ethics	To acquaint students with the Role of an Architect in society and understand the Duties, Responsibilities, Liabilities and Ethics as a Professional. To acquiant the student with the scope and avenues of professional architectural services and the demands and mode of professional practice and to prepare the student for professional field.
42				4201557(SS)	Urban Studies I	Professional Ethics	Introduction to Urban studies and its relevance in Architectural Profession. Affordable housing Introduction and concepts.
43				4201560(PP)	Specification Writting I	Professional Ethics	To know importance of Specifications in contract document for any construction project. Specification as integral part of contract document.

44	2015	2018-19	Fourth Year	4201562 (SV)	Design VIII	Human Values	Students are now expected to address spatial and visual language of their project with reference to the urban context and setting of their site.
45				4201562 (SV)	Design VIII	Environment and Sustainability	Multi functional / Speciality building in urban context with complexity addressing issues of Character, identity, builtform, contextuality, advanced services, Green Initiatives, Landscape integration, with impac on immediate surroundings.
46				4201564(PP)	Professional Practice II	Professional Ethics	To familiarize and prepare students with adequate knowledge of an architect's office administration, documentation and procedures of office and site management.
47				4201565(SS)	Urban Studies II	Professional Ethics	Planning and urban design legislation - Introduction and relevance. Unified building bye laws and development control rules of local authorities.
48				4201565(SS)	Urban Studies II	Environment and Sustainability	Identification of urban issues related to various aspects such as environment, hills, hill slpoes, riverfront development.
49				4201568(PP)	Specification Writting II	Professional Ethics	To know importance of specifications in contract document for any construction project. Technical and functional role of specifications in any construction project
50				4201568(PP)	Specification Writting II	Human Values	Broad outline specification for service installations - Accessibility arrangements for disabled persons.
51		2019-20	Fifth Year	5201570(SV)	Practical Training	Professional Ethics	To learn about architect's office management and learn about the process of design, execution and management of a project.
52				5201572(SS)	Elective IV	Professional Ethics	Architectural professionals will have to deal with more and more complex buildings as well as organizational structure to realize a project.
53				5201572(SS)	Elective IV	Environment and Sustainability	Probable management elective topics include. Environment and energy management.

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	Syllabus Pattern	Year of Introduction	Class	Course Code	Course Name	ISSUES ADDRESSED (Gender, Human Values, Environment and Sustainability, Professional Ethics)	Detail Description
54	2008	2008	First Year	113421 (SV)	Basic Design I (SV)	Environment and Sustainability	Study of Lines and forms: Lines(Their Visual Qualities), Composition of two dimensional forms, Forms in nature(Animate and Inanimate)
55				113422 (SS)	Architectural Design I (Term I) (SS)	Environment and Sustainability	Analyzing single activity, single space structures, its context of form, construction, anthropometrical data, space layout, relationship with surrounding environment etc.
56					Architectural Design I (Term II) (SS)	Human Values	Study of settlement environment. Visit to nearby settlement to study spaces in he cluster environment. Study of Life style, climate and social structure.
57				113430	Design Fundamentals in Architecture I (SS)	Environment and Sustainability	Scope and study of Building and climate Passive Design policies for Indian climate Conceptual outline of scope of architectural structures, consideration of climate, site and circulation in designing efficient activity spaces.
58		2009	Second Year	213421	Basic Design II (SS)	Environment and Sustainability	Source of Inspiration for Architectural Creativity - Nature & Climate
59				213422	Architectural Design- II (SS & SV)	Environment and Sustainability	To introduce the students to the various approaches to design process and to impart understanding of various design parameters related to climatic sustainability. Application of climatic consideration as strategic design parameter with respect to human comfort and energy consumption
60				213422	Architectural Design- II (SS & SV)	Human Values	Contextual architectural proposal by studying a settlement and working on an architectural program in that settlement.
61				213428	H.A.& H.S.-II (SS)	Human Values	Architectural History is the manifestation of the socio-cultural, intellectual and other factors of the specific time, space and people. It is necessary to develop interest in understanding styles, buildings, construction and special attributing features in those contexts.
62				213430	Building Services - I (SS)	Environment and Sustainability	To introduce students to the concepts of water supply, sanitation, electrification and equip them in its application to architectural design, so as to create hygienic and comfortable living conditions. To introduce them rain water harvesting methods and Solar heating. Waste water disposal systems,c septic tanks, soak pits, on site processing and dispopsal methods.
63				213430	Building Services - I (SS)	Human Values	Designing of toilet blocks in residential and public buildings and preparation of working drawings of the same.
64				213432	Building Sciences Term I- Climatology	Environment and Sustainability	To understand different climatic zones of world and evolution of traditional architecture in response to the same. To enable students to read and interpret climatological data of different climatic zones. Role of landscape elements in site planning and its impact on microclimate.
65		2012	Third Year	313421	Architectural Design- III (SV)	Environment and Sustainability	Development of building design program from client or user's requirements and other social, economic and climate context.
66				313421	Architectural Design- III (SV)	Human Values	To undestand varous issues and aspects like sustainability, earthquake, construction, Barrier Free Environments and study how these could be integrated in arch. design process.
67				313427	Building Services - II (SS)	Environment and Sustainability	To introduce students to the concepts of, indoor environmental quality control and providing ambient / comfortable habitable conditions, by integrating the knowledge of active as well as passive methods, in architectural design aimed at environmental sustainability.
68				313429	Landscape Architecture & Environmental Sciences (SS)	Environment and Sustainability	Understanding of sustainable site development addressing the functional, aesthetic and environmental issues. Understanding of the role of Landscape Design in evolving sustainable site planning and also in passive climatic control at building and site level.
69				313431	Working Drawing (SS)	Professional Ethics	To enable the students to prepare working drawings of an architectural project and imbibe the significance of working drawings from the point of view of execution of the work on site
70				413421	Architectural Design IV (SV)	Environment and Sustainability	Introduce students progressively to designing for larger environmental contexts (preferably Indian)
71				413423	Design &Tech. Elective (SS)	Human Values	Term I Elective topics include Barrier free Environment and Design.
72				413423	Design &Tech. Elective (SS)	Environment and Sustainability	Term II Elective topics include Non conventional technologies, Rural (Vernacular) Architecture, Energy effecient and eco friendly construction.

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73		2013	Forth Year	413424	Quantity Surveying & Estimating (SS)	Professional Ethics	To train students in computing quantities of various building items. Acquainting them with rates of various building items. Meadurement of completed items for payment to contractor's interim and final certificate.
74				413426	Specification Writing (SS)	Professional Ethics	To acquaint the student with methodology of writing specifications and introducing the students to specifications as an integral part of contract document for building projects. Specification as part of contract document.
75				413426	Specification Writing (SS)	Environment and Sustainability	specifications for service installations in building such as Environmental responsive systems, renewable energy applications, effecient fuel systems.
76				413428	Town Planning (SS)	Professional Ethics	Introduction to Planning Legislation. Introduction about professional bodies in planning profession. Urban redevelopment and renewal. Study of existing town and town planning proposals.
77				413430	Professional Practice (SS)	Professional Ethics	Nature of profession, difference between trade, business and profession. Accounts system and taxation. Code of conduct. Introduction to valuation of properties. Tenders. Articles of agreementand conditions of contract. Introduction to Arbitration.
78		2014	Fifth Year	513421	Practical Training (SV)	Professional Ethics	one complete term for the students to undergo practical training is to expose them to the world of Professional Practice.First hand experiance of dealing with live projects.Students will learn about Office management, Project management, Contract management, Human resource management.
79				513422	Architectural Project Part II (SV)	Environment and Sustainability	It is expected that students show ability in the areas of Environmental Planning, Climatic responsive, energy effecient and exhibiting qualities of sustainable architecture.
80				513423	Management Electives (SS)	Professional Ethics	Architectural practice is a team effort in which persons of different skills in varied fields are required. Elective topics are Project Management, Architectural Legalities, Architect's office management, Enterpreneurhip development and total Quality management.
81				513424	Allied Electives (SS)	Professional Ethics	Elective subject isintroduced forin depth study of particular subject. Some Elective topics are Architectural Journalism, Economics.
82				513424	Allied Electives (SS)	Human Values	Elective subject isintroduced forin depth study of particular subject. Some Elective topics are Applied Psychology in Architectural Housing finance and building, Applied sociology in Architecture.

शैक्षणिक विभाग
गणेशखिंड, पुणे-४११ ००७
दूरध्वनी क्र. : ०२०-२५६०१२५७/५८/५९
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संकेतस्थळ : www.unipune.ac.in

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संदर्भ क्र : CB/SAT/631

दिनांक : 04/07/2019

परिपत्रक क्रमांक. ९४५ / २०१९

विषय :— विज्ञान व तंत्रज्ञान विद्याशाखेअंतर्गत वास्तुशास्त्र पाच वर्ष बी.आर्च (२०१९ पॅटर्न) चा सुधारित आराखडा व प्रथम वर्ष अभ्यासक्रम शैक्षणिक वर्ष २०१९—२० पासून सुरू करणेबाबत...

विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार सर्व संबंधितांस या परिपत्रकाद्वारे कळविण्यात येते की, विज्ञान व तंत्रज्ञान विद्याशाखेअंतर्गत वास्तुशास्त्र पाच वर्ष बी.आर्च (२०१९ पॅटर्न) चा सुधारित आराखडा व प्रथम वर्ष अभ्यासक्रम शैक्षणिक वर्ष २०१९—२० पासून सुरू करण्यास मान्यता देण्यात येत आहे.

सदर अभ्यासक्रम सावित्रीबाई फुले पुणे विद्यापीठाच्या www.unipune.ac.in या वेबसाईटवर Syllabi – Academic Year 2019 – Faculty of Science and Technology (Architecture) या शीर्षकाखाली उपलब्ध आहे.

मा. प्राचार्य, सर्व संलग्नित वास्तुशास्त्र महाविद्यालये यांना विनंती की, सदर परिपत्रकाचा आशय सर्व संबंधितांच्या निदर्शनास आणून द्यावा.

उपकुलसचिव
(शैक्षणिक विभाग)

शैक्षणिक विभाग
गणेशखिंड, पुणे-४११ ००७
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संदर्भ क्र : CB/S&T/115

दिनांक : 12/02/2020

परिपत्रक क्रमांक. ४१ / २०२०

विषय :— विज्ञान व तंत्रज्ञान विद्याशाखेंतर्गत वास्तुशास्त्र द्वितीय व तृतीय वर्ष बी.आर्च (२०१९ पॅटर्न) चा अभ्यासक्रम शैक्षणिक वर्ष २०२०—२१ पासून सुरू करणेबाबत.....

विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार सर्व संबंधितांस या परिपत्रकाद्वारे कळविण्यात येते की, विज्ञान व तंत्रज्ञान विद्याशाखेंतर्गत वास्तुशास्त्र द्वितीय व तृतीय वर्ष बी.आर्च (२०१९ पॅटर्न) चा अभ्यासक्रम शैक्षणिक वर्ष २०२०—२१ पासून सुरू करण्यास मान्यता देण्यात येत आहे.

सदर अभ्यासक्रम सावित्रीबाई फुले पुणे विद्यापीठाच्या www.unipune.ac.in या वेबसाईटवर Syllabi – Academic Year 2020 – Faculty of Science and Technology (Architechture) या शीर्षकाखाली उपलब्ध आहे.

मा. प्राचार्य, सर्व संलग्नित वास्तुशास्त्र महाविद्यालये यांना विनंती की, सदर परिपत्रकाचा आशय सर्व संबंधितांच्या निदर्शनास आणून द्यावा.

उपकुलसचिव
(शैक्षणिक विभाग)

SAVITRIBAI PHULE PUNE UNIVERSITY

[Formerly the University of Pune]

COURSE STRUCTURE

FIVE YEAR DEGREE COURSE IN ARCHITECTURE

[B.ARCH.]

TO BE IMPLEMENTED FROM 2019-20

BOARD OF STUDIES IN ARCHITECTURE

FACULTY OF SCIENCE AND TECHNOLOGY

COURSE STRUCTURE

BACHELOR OF ARCHITECTURE [B.Arch.]

The syllabus structure is based upon 28 clock hours per week for 1st to fourth year. Additionally 2 clock hours per week are assigned for utilisation for the lectures / allied activities focussing on the individual philosophy of the institute in form of audit courses / site visits / special lectures / workshops / seminars etc offering choice based activities for the institutes / students. The periods considered for calculating the teaching load are of 60 min duration. The architectural design / architectural design project and building construction studio credits are calculated as 1 hour = 1.5 credits, allied studios/labs/workshops are calculated as 1 hour = 0.5 credits and theory lectures are calculated as 1 hour = 1 credit. The detail structure of the syllabus for the ten semester course is given below.

(Note: SS= Sessional work; In Sem = In Semester exam ; End Sem = End semester exam; SV= Sessional and Viva voce; L= Lecture, S=Studio, T=Total ; Theory Paper -P

FIRST YEAR B.ARCH. SEMESTER I

CourseCode	CourseTitle	L	S	T	Theory		Sessional and / Viva		Total Marks	Credits
					In Sem	End Sem	SS	SV		
1201901	Basic Design	1	6	7			250		250	10
1201902	Building Construction & Materials I[P]	2		2	30	70			100	2
1201903	Building Construction & Materials I[SV]		3	3				100	100	5
1201904	Theory of Structures I	2		2	30	70			100	2
1201905	Architectural Graphics and Drawing I	1	4	5			100		100	3
1201906	History of Arch & Culture I	1	2	3			50		50	2
1201907	Communication Skills	2	1	3			50		50	2
1201908	Workshop I	1	2	3			100		100	2
		10	18	28					850	28
1201917	Audit Course									

FIRST YEAR B.ARCH. SEMESTER II

Course Code	Course Title	L	S	T	Theory		Sessional and / Viva		Total Marks	Credits
					In Sem	End Sem	SS	SV		
1201909	Architectural Design I	1	6	7				250	250	10
1201910	Building Construction & Materials II[P]	2		2	30	70			100	2
1201911	Building Construction & Materials II[SV]		3	3				100	100	5
1201912	Theory of Structures II	2		2	30	70			100	2
1201913	Architectural Graphics and Drawing II	1	4	5			100		100	3
1201914	History of Arch & Culture II	1	2	3			50		50	2
1201915	Fundamentals of Architecture	2	1	3			50		50	2
1201916	Workshop II	1	2	3			100		100	2
		10	18	28					850	28
1201918	Audit Course									

SECOND YEAR B.ARCH. SEMESTER III

Course Code	Course Title	L	S	T	Theory		Sessional and / Viva		Total Marks	Credits
					In Sem	End Sem	SS	SV		
2201917	Architectural Design II	1	6	7				250	250	10
2201918	Building Construction & Materials III[P]	2		2	30	70			100	2
2201919	Building Construction & Materials III[SV]		3	3				100	100	5
2201920	Theory of Structures III	2		2	30	70			100	2
2201921	Computer Aided Drawing and Graphics	1	3	4			50		50	2
2201922	History of Arch & Culture III	1	2	3			50		50	2
2201923	Building Services I[P]	2	0	2	30	70			100	2
2201924	Building Services I[SS]	0	2	2			50		50	1
2201925	Climatology	1	2	3			50		50	2
		10	18	28					850	28
2201935	Audit Course									

SECOND YEAR B.ARCH. SEMESTER IV

Course Code	Course Title	L	S	T	Theory		Sessional and / Viva		Total Marks	Credits
					In Sem	End Sem	SS	SV		
2201926	Architectural Design III	1	6	7				250	250	10
2201927	Building Construction & Materials IV[P]	2		2	30	70			100	2
2201928	Building Construction & Materials IV[SV]		3	3				100	100	5
2201929	Theory of Structures IV	2		2	30	70			100	2
2201930	Environmental Science	1	2	3			50		50	2
2201931	History of Arch & Culture IV	1	2	3			50		50	2
2201932	Building Services II[P]	2	0	2	30	70			100	2
2201933	Building Services II[SS]	0	2	2			50		50	1
2201934	Site Survey and Analysis	1	3	4			50		50	2
		10	18	28					850	28
2201936	Audit Course									

THIRD YEAR B.ARCH. SEMESTER V

Course Code	Course Title	L	S	T	Theory		Sessional and / Viva		Total Marks	Credits
					In Sem	End Sem	SS	SV		
3201935	Architectural Design IV	1	6	7				250	250	10
3201936	Building Construction & Materials V[P]	2		2	30	70			100	2
3201937	Building Construction & Materials V[SV]		3	3				100	100	4
3201938	Theory of Structures V	2		2	30	70			100	2
3201939	Landscape Architecture	1	3	4			100		100	3
3201940	Elective I [Contemporary Architecture]	1	2	3			100		100	2
3201941	Building Services III[P]	2	0	2	30	70			100	2
3201942	Building Services III[SS]	0	1	1			50		50	1
3201943	Working Drawing I	1	3	4			100		100	2
		10	18	28					1000	28
3201953	Audit Course									

THIRD YEAR B.ARCH. SEMESTER VI

Course Code	Course Title	L	S	T	Theory		Sessional and / Viva		Total Marks	Credits
					In Sem	End Sem	SS	SV		
3201944	Architectural Design V[SV]		5	5				250	250	8
3201945	Architectural Design V*[P]	2		2		100			100	2
3201946	Building Construction & Materials VI	2	3	5				150	150	6
3201947	Theory of Structures VI	2		2	30	70			100	2
3201948	Research In Architecture I	1	2	3			50		50	2
3201949	Elective II	1	3	4			100		100	3
3201950	Building Services IV[P]	2		2	30	70			100	2
3201951	Building Services IV[SS]		1	1			50		50	1
3201952	Working Drawing II	1	3	4			100		100	2
		11	17	28					1000	28
3201954	Audit Course									

*The Architectural Design V [Paper] will be of 12 hours duration spread over two days of 6 hours a day. The first day will be 6 hours without break. The second day will be 6 hours with a break after 3 hours.

SAVITRIBAI PHULE PUNE UNIVERSITY

[Formerly the University of Pune]

DETAILED SYLLABUS OF FIRST YEAR B.ARCH

SEMESTER I AND II

FIVE YEAR DEGREE COURSE IN ARCHITECTURE

TO BE IMPLEMENTED FROM 2019-20

BOARD OF STUDIES IN ARCHITECTURE

FACULTY OF SCIENCE AND TECHNOLOGY

FUNDAMENTALS OF ARCHITECTURE			
Subject Code 1201915 [SS]			
Teaching Scheme		Examination Scheme	
Total Contact Hours per week= (lectures=2, Studio=1, Total=3)		Sessional [CIA25+EA25]	50
		In-semester exam	NIL
		End Semester exam	NIL
		Total Marks	50
		Total Credits	2

COURSE OBJECTIVES

To introduce the students to the field of architecture ,its scope and fundamentals

COURSE OUTLINE :

Unit 1 : Introduction to the profession of Architecture and its distinguishing characteristics with respect to other professions.

Unit 2 : Scope of architecture as a discipline

Unit 3 : Fundamentals of architecture -function , structure ,culture and environment and their integration into the architectural form

Unit 4 : Factors affecting architectural design- site, context , function, circulation, structural system, materials ,sustainability and aesthetics.

Unit 5 : Concept of Shelter and introduction to various building typologies and their design concerns

Unit 6: Scope and significance of subjects in architectural curriculum.

SESSIONAL WORK :

A Study journal and tutorial covering all the above mentioned units.
Appraisal report of any one building typology.

RECOMMENDED READINGS :

1. Structure in Architecture – Heller Robert and SalvadoriMario
2. Design Fundamentals in Architecture –Pramar
3. Architecture : Form, Space and order – Francis D. K.Ching

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COMMUNICATION SKILLS			
Subject Code 1201907 [SS]			
Teaching Scheme		Examination Scheme	
Total Contact Hours per week= (lectures=2, Studio=1, Total=3)		Sessional [CIA 25+ EA 25]	50
		In-semester exam	NIL
		End Semester exam	NIL
		Total Marks	50
		Total Credits	2

Communication Skills

Objectives: To enhance skills required for effective communication in Architectural education and practice.

Course Content

Unit 1: Introduction to the various modes of communication and their significance.

Unit 2 : **Written communication**: Paraphrasing, Grammar and punctuation. Developing vocabulary pertaining to architecture and design through reading. Introduction to technical writing and forms of writing in architecture discipline such as site visit report, letters, tour reports, appraisals, email etc.. Expressing ideas and concepts through words.

Unit 2: **Verbal communication**: Presenting an idea/ thought, debate, group discussion. And **Nonverbal aspects of communication** such as body language, posture, stance etc.

Unit 3: **Graphical communication**: Analytical diagrams, info graphics, flow charts, mind maps, posters, logo design.

Unit 4: Use of **Digital tools for communication**: Basics of Word based, numerical based software, and visual presentation techniques such as photography, videography etc.

Sessional work: Minimum 6 assignments to cover the aspects mentioned above. Assignments may be tied up with other subjects in the syllabus, wherever relevant. Assignments to be framed focusing on the profession of architecture.

OUTCOME : At the end of the course the student should be able to communicate fluently in English language and also use tools of communication such as written and graphical for effective communication.

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SEMESTER II

ARCHITECTURAL DESIGN I			
Subject Code 1201909 [SV]			
Teaching Scheme		Examination Scheme	
Total Contact Hours per week= (lectures=1, Studio=6, Total=7)		Sessional [CIA100+EA100]	200
		Viva [INT 25+ EXT 25]	50
		In-semester exam	NIL
		End Semester exam	NIL
		Total Marks	250
		Total Credits	10

COURSE OBJECTIVES:

- To introduce design as a process of decision making.
- To introduce to the aspects of decision making such as anthropometry, climate, form, function, structure and material.
- To understand experiential quality of space.
- To comprehensively understand the role of socio cultural and geographical factors in shaping of rural settlements and architecture.

COURSE CONTENT:

Unit 1 : Study and analysis of small scale built spaces with respect to its context, comfort, function, anthropometrical data and layout

Unit 2 : Designing of single activity space like a seating area in public space, kiosks, play area, entrance gate etc. demonstrating the application of the design principles and communicated effectively through two and three-dimensional hand drawings, sketches and models.

Unit 3 : Study and analysis of a rural settlement and architecture with respect to lifestyle, climate & social structure etc.

Unit 4 : Designing in the context of the studied settlement.

SUBMISSION REQUIREMENT FOR SESSIONAL WORK:

- Assignments focusing on each of the four units above and to be presented in various mediums like doodles, sketches, diagrams etc in addition to the architectural drawings and models.

OUTCOME :

The student would be able to analyze simple spaces, identify factors affecting their design and be able to design a simple space for human use.

RECOMMENDED READINGS :

- A Pattern language by Alexander Christopher
- Structure in Nature -Strategy for Design- Peter Pearce
- Patterns in Nature - Peter Streens
- Visual thinking- Arnheim Rudolf
- Architecture: Form Space and order _ Francis D.K. Ching
- Rybczynski, Witold. *How the other half builds*
- Jan A. Silva and Leslie Fairweather. *A.J. Metric Handbook*
- Michael Pause & Roger H. Clark. *Precedents in Architecture*
- Gail Greet Hannah (2002). *Elements of Design*
- Bernard Rudofsky (1964). *Architecture without Architects: A Short Introduction to non-pedigreed Architecture*
- Ching Francis D.K.(1979). *Form, Space and Order*
- Ching Francis D.K.(). *A Visual Dictionary of Architecture*
- Christopher Alexander (). *A Pattern Language*
- Christopher Alexander(). *The Timeless Way of Building*
- Robert Summer(). *Design Awareness*
- YatinPandya (). *Elements of Space Making*
- Paul Lassau (). *Graphic Thinking for Architects & Planners*
- Rybczynski, Witold. *How the other half builds*
- Jan A. Silva and Leslie Fairweather. *A.J. Metric Handbook*
- Michael Pause & Roger H. Clark. *Precedents in Architecture*
- *Elements of Design*

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BUILDING CONSTRUCTION AND MATERIALS II			
Subject Code 1201910 [THEORY] & 1201911 [SV]			
Teaching Scheme		Examination Scheme	
Total Contact Hours per week= (lectures=2, Studio=3, Total=5)		Sessional [CIA25+EA25]	50
		Viva [INT25+EXT 25]	50
		In-semester exam	30
		End Semester exam	70
		Total Marks	200
		Total Credits	2+5

COURSE OBJECTIVES:

- To develop a fundamental understanding of basic building elements, their function and behaviour under various conditions with specific reference to Timber construction.
- To study the principles of designing components of Timber Structure – Floor, Roofs ,Door, Windows

Architectural Design II		
Course Code	2201917[SV]	
TeachingScheme	ExaminationScheme	
TotalContact Hoursperweek (lectures=1 Studio=6, Total = 7)	Sessional [CIA 100 + EA 100] Viva [Int 25 + Ext 25]	200 50
	In semester exam	NIL
	End Semester exam	NIL
	TotalMarks	250
	Total Credits	10

COURSE OBJECTIVE:

To understand Architectural Design as a process generating design brief and taking design decisions based on the following aspects:

- **Socio-Cultural Aspects:** To introduce students to socio-cultural aspects like lifestyle, culture, traditions, and their effect on architectural design etc.
- **Aesthetics:** To understand the Aesthetic aspects of Design (visual and experiential) along with spatial attributes (scale and proportions, volume, texture, light and shadows, etc.) and formal characteristics. (profile, base, corner, termination).
- **Anthropometry & Function:** To address functional aspects of design (activity, use of space, adequacy and efficiency of space for a particular activity, essential adjacencies of spaces, ease and efficiency of circulation, light, ventilation, user-space relationship, vertical connections)
- **Climate:** To understand the Climatic aspects those have a bearing on architectural design and address climatic concerns like adequate light, ventilation, protection from rain, insulation, shading, heat gain, through passive strategies.
- **Building Material and Construction Technology:** To study relevance of various building materials to a project, to get introduced to various expressions of a building material, to introduce a student to the construction technologies relevant to the building materials chosen, to understand the scope and limitations of a building technique to achieve the desired form and space.
- **Building Services:** To understand the spatial and structural implications of basic services involved in building design.
- **Site :** To understand the site and its context, both immediate and wider, in order to enable students to take decisions of zoning, circulation within site, distribution of built and open spaces, activity relationships and adjacencies, and views.
- **Universal Design:** To understand the concept and principles of universal design.
- **Precedent Studies:** To introduce the students to learn from case, referral, live studies - process of observation, analysis, documentation and deriving inferences.

COURSE OUTLINE:

- Project 1 (Major Project) : A dwelling for a single family or clusters of dwellings for multiple families with area 300 sq.m. to 500 sq.m. The project should explicitly address at least 4-5 aspects of the design decision process from those listed above. The project should be designed without the aid of mechanical means for vertical transportation.
- Project 2 (Minor Project): A time bound assignment Short term project focusing specifically on any one of the aspects mentioned in course objectives/ Hands-on Workshop / Exercise based on detailing any one of the components of Project 1 but with separate deliverables in addition to the deliverable of Project 1.

SESSIONAL WORK:

- Project 1 (Major Project): The student must represent the identification of core design aspect, formulation of design approach and development, and the final design outcome through architectural drawings along with representative details of construction. Along with the drawings, the student must develop the design through a series of models/ 3D visualizations made at various stages.
  Design deliverable for Project 1:
  i. Portfolio A - Architectural drawings and model at an appropriate scale
  ii. Portfolio B - Process drawings / tracings (Recommended)
  iii. Study models of various stage (Recommended)

- For Project 2 (Minor Project): The deliverable in case of a time bound assignment or a design exercise should be a portfolio of drawings and / or model. In case of Workshops the deliverable should be a report to be presented on the day of viva.

COURSE OUTCOME:

- At the end of the course the student is equipped to take design decisions by considering various aspects and methodically evolve a design and communicate it in form of 2D and 3D representations.

REFERENCE BOOKS :

1. Antoniades, A. (1992). The Epic of Gilgamesh: Utility to Metaphor Through the Dawn of Architecture. *IN Epic Space: Towards the Roots of Western Architecture*, 3-18.
2. Sommer, R. (1972). Design awareness.
3. Deasy, C. M. (1974). *Design for human affairs*. Halsted Press.
4. Alexander, C. (1977). *A pattern language: towns, buildings, construction*. Oxford university press.
5. Sealey, A. (1979). *Introduction to building climatology*. Commonwealth Association of Architects.
6. Franck, K. A., Lepori, R. B., & Franck, K. A. (2007). *Architecture from the inside out: from the body, the senses, the site, and the community* (p. 56). London: Wiley-Academy.
7. Salvadori, M. G., & Heller, R. (1963). *Structure in arquitecture* (No. 624). Prentice-Hall,.
8. Pandya, Y. (2005). *Concepts of space in traditional Indian architecture*. Mapin Publishing Pvt.
9. Koenigsberger, O. H. (1975). *Manual of tropical housing & building*. Orient Blackswan.
10. Neufert, E., &Neufert, P. (2012). *Architects' data*. John Wiley & Sons.

3. Numerical on Design of Cantilever Slab resting on a Beam (Beam Torsion in theory only)
4. Numerical on Design of Small Slabs like Toilet Sunken Slabs with Inverted Beams, Passage Slabs, Chajjas with Minimum Depth, Minimum Area of Steel with minimum/ maximum standards of Spacing.

Unit 5: Design of Beams (L.S.M for Flexure and Shear):

1. Numerical on Design of Simple Supported R.C.C Beams including Transfer of Load from Slab to Beam for one way slab only,
2. Theory only for Detailing in for a Beam supporting a Cantilever Porch

Unit 6: Design of Short R.C.C. Columns (L.S.M for Compression):

1. Definition of Short R.C.C. Columns. Various I.S.Provisions for Compression Members.Numerical on Design of Short R.C.C. Columns including Transfer of Load from Beam to Column

Course Outcome:*At the end of semester student develops*

1. *The understanding of the concepts of Fixity, Continuity and Torque*
2. *The Skills to Design small spanned Wooden Beams*
3. *The Skills to Design Small Spanned R.C.C Structure w.r.t Slabs, Beams and Columns and use it for his B.C.M and W.D. subjects*

Reference Books

1. Design of R.C.C. Structures by H.J.Shah
2. Design of R.C.C. Structures by Punmia and A.K.Jain
3. Design of Reinforced Concrete Structures by N.Krishnaraju
4. R.C.C Theory and Design by Dr. V.L.Shah and Dr.S.R.Karve
5. Strength of Materials by A.P.Dongre
6. Design and Analysis of Steel Structures by V.N.Vazirani. M.M.Ratwani and Vineet Kumar (For Wooden Structures Unit 2b)

Computer Aided Drawing and Graphics			
Subject Code		2201921[SS]	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=1, Studio=3)	04	Sessional [CIA 25 + EA 25]	50
		In semester exam	
		End Semester exam	
		TotalMarks	50
		Total Credits	02

COURSE OBJECTIVES:

- To enable the students to communicate an architectural idea / proposal in a legible and effective manner through various architectural presentations and rendering techniques.
- To enable the students to generate simple architectural drawings using **Computer Aided Drawing**
- To enable the students to express their design ideas through various sketching techniques

COURSE OUTLINE:

Unit 1 Graphics:

- Introduction to various mediums for architectural presentations invarious drawing formats (minimum two mediums)
- It is recommended to work on presentation drawings for any Architectural design project A set of drawing shall include rendering of Plans, Elevations, Sections with internal and external perspective views.

Unit 2 Computer Aided Drawing:

- Introduction to basics of Computer Aided Drawing with basic commands for Drawing, sufficient to construct simple geometrical shapes and 3D objects.
- Advance commands in CAD such as Setting Drawing parameters, Layer controls, Hatching, Model and paper space settings etc.
- Drafting single building from Semester II Design on CAD.

SUBMISSION REQUIREMENT FOR SESSIONAL WORK:

Sessional work should be planned to cover all the units mentioned in course outline with thrust on skill development, accuracy and understanding of the topics.

Unit 1	Demonstration of presentation techniques in various drawing formats (minimum two mediums) to include external perspective and internal perspective of students' own architectural design.	2 assignments [hand drawn]
Unit 2	CAD drawings (Plan, Section/s Elevation/s) with layers , hatch and dimensions from Semester II Design project	2 assignments
	CAD Drawings of orthographic solid objects studied in Semester II	2 assignments

OUTCOME :

- Students should be able to comprehend and express nuances of graphic language through various presentation techniques and methods learnt.
- Students should be able to communicate various ideas through architectural graphic representations (drafting and sketching).

RECOMMENDED READING:

Burden, E. E. (1971).*Architectural delineation: a photographic approach to presentation*. McGraw-Hill Companies.
Holmes, J. M. (1954). *Applied perspective;: The theory and application of perspective for architects, painters, and draughtsmen.* s.l.:s.n
Capelle, F. W. (1969).*Professional perspective drawing for architects and engineers.*s.l.:s.n
Schaarwachter, G. (1967).*Perspective for the Architect.*Thames and Hudson.
Sha Publishing Co. Ltd,:Interior perspective in Architectural Design- Japan Graphics
Japan Publishing Co: Modern Architectural Rendering best 180
Japan Publishing Co: Perspective Drawings of Modern Architecture
Japan Publishing Co: Air brushing in rendering
Shankar Mulik: Perspective and Sciography

HISTORY OF ARCHITECTURE AND CULTURE III

Course Code		2201922[SS]	
Teaching Scheme		ExaminationScheme	
Total Contact Hours per week= (lectures=1, Studio=2, Total=3)		Sessional [CIA 25+EA 25] Viva	50 NIL
		In-semester exam	NIL
		End Semester exam	NIL
		TotalMarks	50
		Total Credits	02

Course Objectives:

1. To understand the development of European architecture through the historical period till 17th century AD.
2. To understand the relationship of religion and society with architecture
3. To understand the drivers of change, revival, and evolution of architecture

Course Outline:

Unit 1: Greek architecture including Greek temples, domestic architecture, public architecture, city planning, and the Acropolis.

Unit 2: Roman architecture including domestic architecture, public architecture, architecture of the forums, urban planning, structural innovations, forms, materials and techniques of construction.

Unit 3: Early Christian architecture including adaptation of Roman models, early church prototypes, Byzantine architecture

Unit 4: Early medieval manors, monasteries, Romanesque churches

Unit 5: Gothic architecture and developments therein with reference to church plans, structural techniques, and ornamentation, Gothic churches and cathedrals

Unit 6: Renaissance and resultant architecture including works of Andrea Palladio, Michelangelo, Brunelleschi. Works of Sir Christopher Wren and Inigo Jones. Post-Renaissance and Baroque architecture

Sessional Work:

- Minimum 25 representative buildings of the periods under study should be represented in Plans, sections and views- of various buildings discussed in the above units.
- One measured drawing and digital documentation of any site/ building / or part/features of the building related to the course content studied.. This can be undertaken as group work with identifiable individual contribution.
- One tutorial.

Course Specific Outcomes:

1. An understanding of architecture as a product shaped by various factors like religion and society.
2. An understanding of the formal, structural, and stylistic aspects of architectural development.
3. An understanding of the factors that bring about the processes of change in architectural manifestations and its meanings.

Recommended Readings:

Anderson, Christy. Renaissance Architecture.Oxford University Press, 2013.
Ching, Francis D K, Mark Jarzombek, VikramadityaPrakash. A Global History of Architecture.John Wiley and Sons, 2011.
Fletcher, Sir Banister and Dan Cruickshank. Sir Banister Fletcher's A History of Architecture On The Comparative Method. Architectural Press, 1996.
Frankyl, Paul. Gothic Architecture.Yale University Press, 2001.
Lawrence, A W. Greek Architecture. Yale University Press, 1957.
Summerson, John. The Classical Language of Architecture.Thames and Hudson, 1980.
Ward-Perkins, J B. Roman Imperial Architecture.Yale University Press, 1992.

Building Services I		
Course Code	2201923 [P] & 2201924 [SS]	
TeachingScheme	ExaminationScheme	
TotalContact Hoursperweek (lectures=2 Studio=2, Total =4)	Sessional [CIA 25 + EA 25]	50
	In semester exam	30
	End Semester exam	70
	TotalMarks	150
	Total Credits	03

COURSE OBJECTIVES:

To make students understand the Plumbing scope in the MEP services integration. To introduce students to following Plumbing Services in low, medium and high rise buildings and inculcate them the integration of services required in architectural design.
This term aims at following services:

- Systems for hot and cold water supply in a building premises
- Systems for Sewage, Sullage, Storm water & and its disposal within or from building premises.

COURSE OUTLINE:

Introduction to sourcing, storage, and distribution of hot and cold water in building premises including the study of all necessary components involved and their installation.

RECOMMENDED READING

- NBC 2016 Vol 2, Part 9, Sections (1, 2, 3)
- Handbook on Water supply and Drainage - BIS SP 35 1987
- Building Services Handbook - Fred Hall & Roger Greeno
- Sanitation, Drainage and Water Supply - Mitchell.
- IPC 2018 (International Plumbing Code)
- Plumbing – Design &Practise – S G Deolalikar
- Environment and Services - Peter Burberry.

Climatology		
Course Code	2201925 [SS]	
TeachingScheme	ExaminationScheme	
TotalContact Hoursperweek (lectures=1 Studio=2, Total = 3)	Sessional [CIA 25 + EA 25]	50
	In semester exam	
	End Semester exam	
	TotalMarks	50
	Total Credits	02

COURSE OBJECTIVES:

To understand climate as a determinant of architectural design and to enable the students to evolve climate responsive design.

COURSE OUTLINE

Unit I:

1. Understanding the Earth-Sun relation and context of what shapes climate.
2. Elements of climate and understanding climate at different scales ie, global, regional, macro and micro.

Unit II:

1. Global Climate classification
2. Climatic zones of India and its classifications

Unit III:

1. Introduction to passive design strategies at various scales ie urban, building and building component scale.

Unit IV:

1. Introduction to concept of Thermal Comfort in buildings.

Unit V:

1. Introduction to various tools like sun path, bioclimatic chart, site analysis matrix etc that are used to study sun movement, wind and comfort in buildings.

SESSIONAL WORK

- Individual Assignment to apply the various tools like sun path and bioclimatic chart in building element design etc.
- Group work to study contemporary and vernacular architectural case studies in India with climate responsive architecture and passive design strategies.
- Minimum two tutorials on all the units.

Architectural Design III		
Course Code	2201926 [SV]	
TeachingScheme	ExaminationScheme	
TotalContact Hoursperweek (lectures=1 Studio=6, Total = 7)	Sessional [CIA 100 + EA 100] Viva [Int 25 + Ext 25]	200 50
	In semester exam	NIL
	End Semester exam	NIL
	TotalMarks	250
	Total Credits	10

COURSE OBJECTIVE:

To understand Architectural Design as a process of generating design brief and taking design decisions based on the following aspects:

- **Socio-Cultural Aspects:** To introduce students to socio-cultural aspects like lifestyle, culture, traditions, and their effect on architectural design etc.
- **Aesthetics:** To understand the Aesthetic aspects of Design (visual and experiential) along with spatial attributes (scale and proportions, volume, texture, light and shadows, etc.) and formal characteristics. (profile, base, corner, termination).
- **Anthropometry & Function:** To address functional aspects of design (activity, use of space, adequacy and efficiency of space for a particular activity, essential adjacencies of spaces, ease and efficiency of circulation, light, ventilation, user-space relationship, vertical connections)
- **Climate:** To understand the Climatic aspects those have a bearing on architectural design and address climatic concerns like adequate light, ventilation, protection from rain, insulation, shading, heat gain, through passive strategies.
- **Building Material and Construction Technology:** To study relevance of various building materials to a project, to get introduced to various expressions of a building material, to introduce a student to the construction technologies relevant to the building materials chosen, to understand the scope and limitations of a building technique to achieve the desired form and space.
- **Building Services:** To understand the spatial and structural implications of basic services involved in building design.
- **Site :** To understand the site and its context, both immediate and wider, in order to enable students to take decisions of zoning, circulation within site, distribution of built and open spaces, activity relationships and adjacencies, and views.
- **Universal Design:** To understand the concept and principles of universal design.
- **Precedent Studies:** To introduce the students to learn from case, referral, live studies - process of observation, analysis, documentation and deriving inferences.

COURSE OUTLINE:

- **Project 1 (Major Project):** A design project that introduces the concept of site planning with multiple built spaces with an area 1000 sq.m. to 1500 sq.m.. This project should house a variety of core and allied activities requiring built, open, and transition spaces. The project should explicitly address at least four aspects of the design decision variables from those listed in course objectives.
- **Project 2 (Minor Project):** The students must undergo a Settlement study / study tour in a region with which is different in terms of socio geographic characteristics than the place where the institute is located.A short term project or eskee based in the settlement the students have studied.

SESSIONAL WORK:

- **Project 1 (Major Project):** The student must represent the identification of core design aspect, formulation of design approach and development, and the final design outcome through architectural drawings along with a narrative and representative details of construction. Along with the drawings, the student must develop the design through a series of models/ 3D visualizations made at various stages.
  Design deliverables -
  i. Portfolio A - Architectural drawings and model at an appropriate scale
  ii. Portfolio B - Process drawings / tracings (Recommended)
  iii. Study models of various stage (Recommended)
- **Project 2 (Minor Project):** The Study Tour documentationcovering details from whole to part and must include narratives, sketches, scale drawings, photographs. It may additionally have information presented in any other formats in addition to the ones mentioned above. The short term project or eskeeto be presented in form of drawings to explain the scheme.

COURSE OUTCOME :

- At the end of the course the student is equipped to take design decisions by considering various aspects and methodically evolve a design where two or more buildings are to be planned on a site and communicate it in form of 2D and 3D representations.

REFERENCE BOOKS

2. Lynch, K., Lynch, K. R., & Hack, G. (1984). *Site planning*. MIT press.
3. Rybczynski W. (1984). *How the Other half builds, Volume 1 : Space.* Centre for Mininum Cost Housing. McGill University. Montreal Canada
4. Carlos Barquin (1986). *How the Other half builds, Volume 2 : Plots.* Centre for Mininum Cost Housing. McGill University. Montreal Canada
5. Vikram Bhatt. (1990). *How the Other half build, Volume 3 : Self selection Process.* Centre for Mininum Cost Housing. McGill University. Montreal Canada
6. Rapoport, A. (1969). *House form and Cultua.* Prentice-Hall of India Private Ltd.: New Delhi, India.
7. Correa, C. (2010). *A place in the shade: the new landscape & other essays.* Penguin Books India.

Environmental Science		
Course Code	2201930 [SS]	
TeachingScheme	ExaminationScheme	
TotalContact Hoursperweek (lectures=1 Studio=2, Total = 3)	Sessional [CIA 25 + EA 25]	50
	In semester exam	-
	End Semester exam	-
	TotalMarks	50
	Total Credits	02

COURSE OBJECTIVES:

Basic introduction to Multidisciplinary nature of environmental studies with focus on

- Natural Resources
- Eco Systems
- Biodiversity and its conservation
- Environmental Pollution
- Environment Legislation and Social aspects of environment
- Environment friendly buildings

COURSE CONTENT:

Unit I –Natural Resources-Land, water, forest, energy and food

Unit II -Concept of Eco Systems with structure and functions

- Biochemical cycles
- Different ecosystems such as forest ecosystem, grassland ecosystem, desert ecosystem, aquatic ecosystems (ponds, lakes, streams, rivers, estuaries, oceans)

Unit III -Biodiversity

- Value of biodiversity: consumptive, productive use, social, ethical and aesthetic
- Treats to biodiversity and conservation of biodiversity(in-situ and ex-situ)

Unit IV - Environmental Pollution

- Causes, effects and control measures of air pollution, water pollution, soil pollution, marine pollution noise pollution, thermal pollution and nuclear hazards

Unit IV –Environment Legislation and Social aspects of environment

- Basic Introduction to Environment Protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and Control of Pollution) Act, Wildlife Protection Act and Forest Conservation Act
- Environment and human health, human rights and value education for environmental awareness
- Basic introduction to Environment clearance for construction projects
- Brief introduction to the concept of "green buildings" and green building rating systems.

SUBMISSION REQUIREMENT FOR SESSIONAL WORK:

- Journal on each unit with basic concept, definitions and case studies
- Seminar/essay on any one current environmental issue and its interconnectedness with architecture/development

OUTCOME:

Students should be able to grasp the interdisciplinary nature of environment science and its interdependence on development and society. They should be able to think holistically about environment when taking architectural design decisions

RECOMMENDED READINGS:

1. Textbook for Environmental Studies for undergraduate courses of all branches of higher education, ErachBharucha for University Grants Commission
2. Objective Environmental Science, B.B.Singh
3. Fundamentals of Environmental Studies ,MahuaBasu and S.Xavier
4. Environment and Development,1st Edition, Basic Principles, Human Activities, and Environmental Implications, Editors: Stavros PoulopoulosVassilisInglezakis

HISTORY OF ARCHITECTURE AND CULTURE IV			
Course Code		2201931 [SS]	
TeachingScheme		ExaminationScheme	
TotalContact Hours per week= (lectures=1, Studio=2, Total=3)		Sessional [CIA 25+EA 25] Viva	50NIL
		In-semester exam	NIL
		End Semester exam	NIL
		TotalMarks	50
		Total Credits	02

Course Objectives:

1. To introduce students to the developments in architecture of the post-medieval Western World as a result of the cultural, political, and economic contexts.

Architectural Design IV		
Course Code	3201935 [SV]	
TeachingScheme	ExaminationScheme	
TotalContact Hoursperweek (lectures=1 Studio=6, Total = 7)	Sessional [CIA 100 + EA 100] Viva [Int 25 + Ext 25]	200 50
	In semester exam	NIL
	End Semester exam	NIL
	TotalMarks	250
	Total Credits	10

COURSE OBJECTIVE:

To understand Architectural Design as a process of generating design brief and taking design decisions based on the following aspects:

- **Socio-Cultural Aspects:** To introduce students to socio-cultural aspects like lifestyle, culture, traditions, and their effect on architectural design etc.
- **Aesthetics:** To understand the Aesthetic aspects of Design (visual and experiential) along with spatial attributes (scale and proportions, volume, texture, light and shadows, etc.) and formal characteristics. (profile, base, corner, termination).
- **Anthropometry & Function:** To address functional aspects of design (activity, use of space, adequacy and efficiency of space for a particular activity, essential adjacencies of spaces, ease and efficiency of circulation, light, ventilation, user-space relationship, vertical connections)
- **Climate:** To understand the Climatic aspects those have a bearing on architectural design and address climatic concerns like adequate light, ventilation, protection from rain, insulation, shading, heat gain, through passive strategies.
- **Building Material and Construction Technology:** To study relevance of various building materials to a project, to get introduced to various expressions of a building material, to introduce a student to the construction technologies relevant to the building materials chosen, to understand the scope and limitations of a building technique to achieve the desired form and space.
- **Building Services:** To understand the spatial and structural implications of basic services involved in building design.
- **Site :** To understand the site and its context, both immediate and wider, in order to enable students to take decisions of zoning, circulation within site, distribution of built and open spaces, activity relationships and adjacencies, and views.
- **Universal Design:** To understand the concept and principles of universal design.
- **Precedent Studies:** To introduce the students to learn from case, referral, live studies - process of observation, analysis, documentation and deriving inferences.

COURSE OUTLINE:

1. Designing of progressively complex spaces and buildings in terms of area, a specific community, typology, function etc, with emphasis on either scale or complexity of the project, or both.
2. Project could be evolved based on the current needs of the city and / or context responding to aspects like heritage and conservation, landscape and ecology, image and identity, etc.
3. Development of building design program from not only client or user's requirements but also in response to context specific factors like socio-economic, socio-cultural, environmental etc.
4. Introduction to develop a design philosophy/narrative as a thought process in design.
5. Analysing activities around the buildings within a campus and understand the same in context to relation of built form and open spaces, elements of landscape, pedestrian and vehicular movement, their segregation, managing sloping sites, contours, etc.
6. Introduction to Campus design with reference to design of campuses developed in the past.
7. In case of multiple buildings (existing and/or proposed) to be accommodated within a campus, analyse and understand their relationship with each other in context to establish continuity of form, construction, materials, design theme, climate, etc. and the same should reflect in the drawings and models.
8. Integrating functions, structure and services in a building with relevant structural system and its resultant effect on visual form / character of building
9. To understand various issues and aspects of sustainability, earthquake resistance, construction, universal accessibility, etc. and study how these could be integrated in the architectural design process.
   To study a location in urban context preferably in a different socio-geographic setting other than the Institute (not mandatory), and document the study done in the tour in the form of a report with emphasis on relevant aspects like climate, social structure, culture, architectural typology, construction technology, urban fabric, economy, etc or any other issues which need to be considered for envisaging a design project in totality.

SESSIONAL WORK

Assessment Criteria: Major project should have 80% weightage and 20% weightage should be given to the minor project.

A] Major project:

Project based on Campus Design with emphasis on site planning & relationship of built and open spaces, circulation and movement pattern, activity pattern, architectural character, image, identity, philosophy etc.

Deliverables:
i. Portfolio A - Architectural drawings at an appropriate scale preferably 1:200/1:100. And model to appropriate scale.
ii. Portfolio B - Process drawings / tracings (Recommended)
iii. Study models of various stage (Recommended)

B] Minor project:

A Time Bound Project of 12 hours as a means to gauge students' ability to apply the learning of the design studio and in the process acclimatizing them to work under time constraint and meet deadlines. This project of 12 hrs may be based on the parameters of the Design VI paper such as :

1. The suggested nature of project can be in the form of a social amenity in an urban context. However individual colleges do have freedom to choose a topic.
2. Size of the site given for the design should be such that it fits imperial size sheet.
3. Preferred scale of the drawing would be 1:200.
Deliverables: Architectural drawings in appropriate scale preferably 1:200/1:100. (Model optional).

COURSE OUTCOME:

1] Build competency and ability to make communicative architectural drawings that are of readable scales, preferably in:
1:200 (Site level drawings & Model)
1:100 (Cluster level drawings)
Appropriate details to be explored at 1:50/20/10 etc.
2] Be able to negotiate various scales in drawings and models.
3] Be equipped to resolve structural systems of various construction techniques and services.
4]

REFERENCE BOOKS

1. Lynch, K., Lynch, K. R., & Hack, G. (1984). *Site planning*. MIT press.
2. Rybczynski W. (1984). *How the Other half builds, Volume 1 : Space.* Centre for Mininum Cost Housing. McGill University. Montreal Canada
3. Carlos Barquin (1986). *How the Other half builds, Volume 2 : Plots.* Centre for Mininum Cost Housing. McGill University. Montreal Canada
4. Vikram Bhatt. (1990). *How the Other half build, Volume 3 : Self selection Process.* Centre for Mininum Cost Housing. McGill University. Montreal Canada
5. Rapoport, A. (1969). *House form and Cultua.* Prentice-Hall of India Private Ltd.: New Delhi, India.
6. Correa, C. (2010). *A place in the shade: the new landscape & other essays.* Penguin Books India.
7. Dave, B., Thakkar, J., Shah, M., & Hāṇḍā, O. (2013). *Prathaa: Kath-khuni Architecture of Himachal Pradesh.* SID Research Cell, School of Interiour Design, CEPT University.
8. Kanvinde, A., & Miller, H. J. (1969). *Campus design in India: experience of a developing nation.* Jostens/American Yearbook Company.
9. Adler, D. (2007). *Metric handbook.* Routledge
10. Neufert, E., &Neufert, P. (2012). *Architects' data.* John Wiley & Sons.
11. Gropius, W. (1956). *Scope of total architecture.* London: G. Allen &Unwin.
12. Giedion, S. (1967). *Space, time and architecture: the growth of a new tradition.* Harvard University Press.
13. Gibbered, Fredrick: Town Design.
14. David Gosling, Gordon Cullen – Visions of Urban Design.
15. Bawa, G., & Robson, D. (2002). *Geoffrey Bawa: the complete works.* Thames & Hudson..
16. Scheer, B. C. (2017). *The evolution of urban form: Typology for planners and architects.* Routledge.
17. It is strongly recommended that students are exposed on the books on works of Master architects

LANDSCAPE ARCHITECTURE		
Course Code	3201939 [SS]	
TeachingScheme	ExaminationScheme	
TotalContact Hoursperweek (lectures=1 Studio=3, Total =4)	Sessional [CIA 50 + EA 50]	100
	In semester exam	
	End Semester exam	
	TotalMarks	100
	Total Credits	03

COURSE OBJECTIVES:

- To introduce the students to Landscape Architecture and its scope.
- To understand the elements and principles of landscape design and role of landscape elements in design of outdoor environments on the site.
- To understand the Intent and content of designed landscapes.
- To develop understanding of site analysis and site planning and integrated design of open and built spaces.
- Creating awareness about using Landscape design as a tool to address environmental concerns in Architecture.

COURSE OUTLINE:

- **Unit 1.** Introduction to Landscape Architecture and its scope ,elements(natural and manmade) and their application in achieving functional, aesthetic, environmental and cultural goals.
- **Unit 2.** Principles and approaches in Landscape Design. Illustrations can be from contemporary as well as historic landscapes for understanding various approaches of design.
- **Unit 3.** Study of Hard landscape (civil work) details with respect to materials and construction techniques..
- **Unit 4.** Study of Softscape (plant material), their characteristics and contribution in terms of creating and imparting character to outdoor spaces.
- **Unit 5** Introduction to basics of Site planning and process of site planning.

SESSIONAL WORK:

- Minimum two assignments to expose the students to landscape elements, their application, principles of design and approaches of design.
- Short duration projects such as eskees to allow students to explore the palette of landscape elements in open space creation and design. – Minimum 2.

- One long duration site planning and landscape design project preferably the third year architectural design project. The outcome shall be landscape design drawings, concept generation, site studies, analysis along with constructional details and planting concepts.

REFERENCE BOOKS

Mcharg, I,*Design with Nature.*John Wiley and co. 1978.
Jellicoe, G and Jellicoe, S, *The Lasndscpae of Man*, London: Thames and Hudson, 1991.
Simonds, J .O, *Landscape Architecture: The Shaping of Man's Natural Environment*, N Y: McGraw Hill Book Co.Inc. 1961.
Lynch, K, *Site Planning*, Cambridge: The MIT Press, 1962.
Shaheer, M, Wahi Dua, G and Pal A (editors), *Landscape Architecture In India, A Reader:* LA, Journal of Landscape Architecture, 2013.
Lyall, S, *Designing The New Landscape*: UK:Thames and Hudson, 1998.
Dee, C, Form And Fabric In Landscape Architecture: A Visual Introduction, UK: Spon Press, 2001.
Eckbo, G, *Urban Landscape Design,* N Y: McGraw hill co. 1961.
Laurie, M, *An Introduction to Landscape Architecture*, N Y: American Elsevier Pub. Co. Inc. 1975
Rutledge, A J. *A Visual Approach to Park Design*. New York: John Wiley and Sons, 1985.
Randhawa, M S, *Flowering Trees*, New Delhi: National Book Trust, 1998.
Bose, T K and Choudhary, K, *Tropical Garden Plants in Colour*, Horticulture and Allied Publishers, 1991.
Krishen, P. *Trees of Delhi: A Field Guide*, Penguin India, 2006.
Mukherjee, P, *Trees of India (WWF Natures Guide)*, Oxford, 2008.
Sahni, K C,*The Book of Indian Trees (Bombay Natural History Society)*, Oxford, 1998.
Krishna, N and Amrithalingam, M, *Sacred Plants of India*, Penguin Books Limited, 2014.
Motloch, J. L, *Introduction to Landscape Design*, US: John Wiley and Sons, 2001.
Dines, N and Harris, C, *Timesavers Standards for Landscape Architecture*, McGraw Hill Education, 1998.
Reid, G, L, *Landscape Graphics*, Watson-Guptill, 2002.
Botkin, D. B and Keller, E. A, *Environmental Science: Earth As a Living Planet*, N Y: John Wiley And Co. 1995.
Grosholz, E,*The Poetics of Landscape Architecture,*University of Pennsylvania Press,2010.

ELECTIVE I [CONTEMPORARY ARCHITECTURE]			
Course Code		3201940 [SS]	
Teaching Scheme		ExaminationScheme	
TotalContact Hours per week= (lectures=1, Studio=2, Total=3)		Sessional [CIA 50+EA 50]	100
		In-semester exam	NIL
		End Semester exam	NIL
		TotalMarks	50
		Total Credits	02

Course Objectives:

- To analyze the contemporary trends/approaches in architectural production in terms of design, practices, its perception, appreciation and critical discourses.
- To critically reflect and comment on contemporary architecture across the world.

Course Outline:

Unit 1 - Post-Modernism and other movements in Architecture since the second half of 20th century.

Unit 2 - Post 2000 CE trends in architecture, various critical discourses and current architectural issues

Unit 3 - Analysis and critical appraisal of Architecture across the world

Sessional Work:

- Book review / article / chapter of a book in 1000 words.
- Unit 3 should be a research essay of about 1500-2000 words on a topic selected by the student and accompanied by an oral presentation of 15 minutes duration and discussion.

Students should be encouraged to follow the formalities of writing a research essay. The submission has to be in hand written format.
Students should be assessed primarily for the identification of issues, ability to take position and development of an argument.

Course Specific Outcomes:

1. Application of the knowledge gained through the study of history of architecture to analyse contemporary architecture.
2. Development of individual view point and construction of an argument to put it across.
3. Skill of orally presenting a topic of choice, and generating a discussion.

REFERENCE BOOKS

- Buchanan, Peter. "The Big Rethink". The Architectural Review (AR), (Articles – December2011, January to May 2012, July – September 2012, November 2012)
- Correa, Charles. A Place in the Shade: The New Landscape and Other Essays. PenguinBooks India, 2010.
- Curtis, William J R. Modern Architecture since 1900. Phaidon, 2007.
- Frampton, Kenneth. Modern Architecture. Thames and Hudson, 1992.
- Hays, K. Michael. Architecture Theory since 1968 (2000). MIT Press., Oct 1997, Feb. 2000.
- Hertzberger, Herman. Lessons for Students in Architecture. 010 Publishers, 1973.
- Jencks, Charles. The New Paradigm in Architecture- The Language of Post-Modern Architecture. Yale University Press, 2002.
- Leach, Neil. Anaesthetics of Architecture, MIT Press, 1999
- Mehrotra, Rahul. Architecture in India: Since 1990. Pictor Publishing, 2007.
- Pallasma, Juhani. The Eyes of the Skin: Architecture and the Senses. Academy Press, 2
- edition, 2005
- Smith, Koryden H. Introducing Architectural Theory. Routledge, 2012
- Unwin, Simon. Analysing Architecture. Routledge, 2002.
- Venturi, Robert. Complexity and Contradiction in Architecture. MOMA, 1966.
- Wigley, Mark. The Architecture of Deconstruction- Derrida's Haunt. MIT Press, 1993.

Building Services III	
Course Code	3201941 [P] & 3201942 [SS]

TeachingScheme	ExaminationScheme	
TotalContact Hoursperweek (lectures=2 Studio=1, Total =3)	Sessional [CIA 25 + EA 25]	50
	In semester exam	30
	End Semester exam	70
	TotalMarks	150
	Total Credits	03

COURSE OBJECTIVES

- To comprehend building services as an integral part of architectural design process
- To obtain knowledge of technical and design aspects of natural ventilation, heating, cooling and HVAC

COURSE OUTLINE

- Principles of working of natural ventilation, heating, cooling and HVAC systems, components, materials and provisions in architectural design
- Functional and aesthetical aspects of building services coordination in architectural design

TEACHING PLAN

Unit I: Natural ventilation

1.1 Conditions of human thermal comfort
1.2 Factors affecting natural ventilation
1.3 Strategies to effect natural ventilation

Unit II: Mechanical ventilation

2.1 Systems of mechanical ventilation
2.2 Components of mechanical ventilation systems
2.3 Mechanical ventilation - Schematic design
2.4 Introduction to Psychometric charts

Unit III: Heating and cooling

3.1 Passive heating and cooling techniques
3.2 Low energy mechanical cooling techniques

Unit IV: Air-conditioning - 1

4.1 Principles of air-conditioning systems
4.2 Components of air-conditioning systems

Unit V: Air-conditioning – 2

5.1 Types of air-conditioning systems

Unit VI: Air-conditioning – 3

6.1 Onsite case study of air-conditioning system
6.2 Air-conditioning and ducting layout – Schematic calculations and design for a space / part of a building.

SESSIONAL WORK

Tutorials for Units I, II, III, IV and V (50% marks)
Onsite case study report for 6.1 (25% marks)
Schematic air-conditioning calculations and ducting layout for 6.2 (25% marks)

RECOMMENDED READING

- National Building Code of India 2016
- Air Conditioning Principles and Systems – Edward G Pita
- Environmental Science - B J Smith, G M Phillips, M Sweeney
- Building Service Handbook – Fred Hall and Roger Greeno
- Refrigeration and Air Conditioning – Arora Ramesh Chandra
- Fundamentals of Air Conditioning Systems – Billy C Langley
- Basic Refrigeration and Air Conditioning – P N Ananthanarayanan

WORKING DRAWING I			
Course Code		3201943 [SS]	
TeachingScheme		Examination Scheme	
Total Contact Periodsperweek (lectures=1, Studio=3, total=4)		Sessional [CIA 50 + EA 50]	100
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	100
		Total Credits	2

COURSE OBJECTIVES

- To enable the students to prepare working drawings of an architectural project and imbibe the significance of working drawings from the point of view of execution of the work on site and as important component of tender documents.

COURSE CONTENT

- Introduction to the concept of working drawings and their importance.
- Graphical presentation of all the components of a building along with dimensioning and annotations.
- Understand and apply IS Codes and internationally accepted norms / conventions / methods of repairing a working drawing along with tabulation of schedules of materials, finishes and hardware.

SESSIONAL WORK

- One working drawing of an architectural design project having load bearing structure with minimum 100 sq. m. carpet area. Manually drafted drawings [minimum 6] sufficiently explaining the building from the execution point of view.
- At least two details related to the design such as doors / windows / railings / kitchen otah etc. to suitable scale. (1 drawing)

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Architectural DesignV		
Course Code	3201944[SV]+3201945[P]	
TeachingScheme	ExaminationScheme	
TotalContact Hoursperweek (lectures=2 Studio=5, Total = 7)	Sessional [CIA 100 + EA 100] Viva [Int 25 + Ext 25]	200 50
	In semester exam	NIL
	End Semester exam	100
	TotalMarks	350
	Total Credits	10

COURSE OBJECTIVE:

To understand Architectural Design as a processof generating design brief and taking design decisions based on the following aspects:

- **Socio-Cultural Aspects:** To introduce students to socio-cultural aspects like lifestyle, culture, traditions, and their effect on architectural design etc.
- **Aesthetics:** To understand the Aesthetic aspects of Design (visual and experiential) along with spatial attributes (scale and proportions, volume, texture, light and shadows, etc.) and formal characteristics. (profile, base, corner, termination).
- **Anthropometry & Function:** To address functional aspects of design (activity, use of space, adequacy and efficiency of space for a particular activity, essential adjacencies of spaces, ease and efficiency of circulation, light, ventilation, user-space relationship, vertical connections)
- **Climate:** To understand the Climatic aspects those have a bearing on architectural design and address climatic concerns like adequate light, ventilation, protection from rain, insulation, shading, heat gain, through passive strategies.
- **Building Material and Construction Technology:** To study relevance of various building materials to a project, to get introduced to various expressions of a building material, to introduce a student to the construction technologies relevant to the building materials chosen, to understand the scope and limitations of a building technique to achieve the desired form and space.
- **Building Services:** To understand the spatial and structural implications of basic services involved in building design.
- **Site :** To understand the site and its context, both immediate and wider, in order to enable students to take decisions of zoning, circulation within site, distribution of built and open spaces, activity relationships and adjacencies, and views.
- **Universal Design:** To understand the concept and principles of universal design.
- **Precedent Studies:** To introduce the students to learn from case, referral, live studies - process of observation, analysis, documentation and deriving inferences.

COURSE OUTLINE:

10. Designing of progressively complex spaces and buildings in terms of area, a specific community, typology, function etc, with emphasis on either scale or complexity of the project, or both.
11. Project could be evolved based on the current needs of the city and / or context responding to aspects like heritage and conservation, landscape and ecology, image and identity, etc.
12. Development of building design program from not only client or user's requirements but also in response to context specific factors like socio-economic, socio-cultural, environmental etc.
13. Introduction to develop a design philosophy/narrative as a thought process in design.
14. Analysing activities around the buildings within a campus and understand the same in context to relation of built form and open spaces, elements of landscape, pedestrian and vehicular movement, their segregation, managing sloping sites, contours, etc.
15. In case of multiple buildings (existing and/or proposed) to be accommodated within a site, analyse and understand their relationship with each other in context to establish continuity of form, construction, materials, design theme, climate, etc. and the same should reflect in the drawings and models.
16. Integrating functions, structure and services in a building with relevant structural system and its resultant effect on visual form / character of building
17. To understand various issues and aspects of sustainability, earthquake resistance, construction, universal accessibility, etc. and study how these could be integrated in the architectural design process.
18. To study a location in urban context preferably in a different socio-geographic setting other than the Institute (not mandatory), and document the study done in the tour in the form of a report with emphasis on relevant aspects like climate, social structure, culture, architectural typology, construction technology, urban fabric, economy, etc or any other issues which need to be considered for envisaging a design project in totality.

SESSIONAL WORK

Assessment Criteria: Major project should have 80% weightage and 20% weightage should be given to the minor project.

A] Major project:

System oriented project with emphasis on structural system, vertical and horizontal circulation, services like HVAC, electrical, fire-fighting systems, parking, rules &regulations etc. The project could also be evolved based on the need of the city with socio-economic context, historical context, ecological concerns, etc.

Deliverables:
i. Portfolio A - Architectural drawings at an appropriate scale preferably 1:200/1:100. And model to suitable scale.
ii. Portfolio B - Process drawings / tracings (Recommended)
iii. Study models of various stage (Recommended)

B] Minor project:

Option 1: **A Time Bound Project** of 12 hours as a means to gauge students' ability to apply the learnings of the design studio and in the process acclimatizing them to work under time constraint and meet deadlines. This project of 12 hrs may be based on the parameters of the Design VI paper such as :

1. The suggested nature of project can be in the form of a social amenity in an urban context.
2. Size of the site given for the design should be such that it fits imperial size sheet.
3. Preferred scale of the drawing would be 1:200.

Deliverables: Architectural drawings in appropriate scale preferably 1:200/1:100. (Model optional).

Or

Option 2: **Study Tour linked short term project**

Deliverables: Study tour documentation must include architectural study supported by drawings, narratives, sketches, photographs and information presented in any other formats deemed suitable by the college and linked short term project.

COURSE OUTCOME:

1] Build competency and ability to make communicative architectural drawings that are of readable scales, preferably in:

1:200 (Site level drawings & Model)
1:100 (Cluster level drawings)
Appropriate details to be explored at 1:50/20/10 etc.

2] Be able to negotiate various scales in drawings and models.
3] Be equipped to resolve structural systems of various construction techniques and services.

REFERENCE BOOKS

18. Lynch, K., Lynch, K. R., & Hack, G. (1984). *Site planning*. MIT press.
19. Rybczynski W. (1984). *How the Other half builds, Volume 1 : Space.* Centre for Mininum Cost Housing. McGill University. Montreal Canada
20. Carlos Barquin (1986). *How the Other half builds, Volume 2 : Plots.* Centre for Mininum Cost Housing. McGill University. Montreal Canada
21. Vikram Bhatt. (1990). *How the Other half build, Volume 3 : Self selection Process.* Centre for Mininum Cost Housing. McGill University. Montreal Canada
22. Rapoport, A. (1969). *House form and Cultua.* Prentice-Hall of India Private Ltd.: New Delhi, India.
23. Correa, C. (2010). *A place in the shade: the new landscape & other essays.* Penguin Books India.
24. Dave, B., Thakkar, J., Shah, M., & Hāṇḍā, O. (2013). *Prathaa: Kath-khuni Architecture of Himachal Pradesh.* SID Research Cell, School of Interiour Design, CEPT University.
25. Kanvinde, A., & Miller, H. J. (1969). *Campus design in India: experience of a developing nation.* Jostens/American Yearbook Company.
26. Adler, D. (2007). *Metric handbook.* Routledge
27. Neufert, E., &Neufert, P. (2012). *Architects' data.* John Wiley & Sons.
28. Gropius, W. (1956). *Scope of total architecture.* London: G. Allen &Unwin.
29. Giedion, S. (1967). *Space, time and architecture: the growth of a new tradition.* Harvard University Press.
30. Gibbered, Fredrick: Town Design.

SESSIONAL WORK

- Tutorials for Units I to VI (50% marks)
- Reverberation time calculations and recommendations for acoustical treatment(25% marks)
- Design for provisions for fire prevention, life safety and fire protection (25% marks)

RECOMMENDED READING

- National Building Code of India 2016
- Architectural Acoustics - M. David Egan
- Architectural Acoustics: Principles and Design - Madan Mehta, James Allison Johnson, Jorge Rocafort
- Auditorium Acoustics and Architectural Design - Michael Barron
- Building Services Handbook- Fred Hall, Roger Greeno.

WORKING DRAWING II			
Course Code		3201952 [SS]	
TeachingScheme		Examination Scheme	
Total Contact Periodsperweek (lectures=1, Studio=3, total=4)		Sessional [CIA 50 + EA 50]	100
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	100
		Total Credits	2

COURSE OBJECTIVES:

- To Introduce idea of Design Development and detailing and its relevance in converting 'concept design' to working drawing and hence the realization of design on site.
- To imbibe further the importance of working drawings as an essential tool for effective site execution and execution of a building contract.
- To expose to the standard methods, conventions, drawing annotations including International standards, IS codes, its application in working drawing set with material and component and schedules.

COURSE OUTLINE:

- Lecture demonstration/s to elaborate on standard practices, conventions, graphic annotations, sequencing and cross reference systems of a good working drawing set.

- Design development and detailing of own **design** to resolve the design idea to one which can be executed/ constructed, exposing students to construction parameters, limitation and sequencing.
- Generating a working drawing set for the **chosen design/ building** with framed/composite construction including schedules of material, finishes, components and accessories
- Developing and drafting details of Civil work and furniture/ interior design including schedule of finishes

SESSIONAL WORK:

- Preparing a manually drafted/ CAD generated working drawing set of 'own design project' with carpet area not less than 250 Sq. M. and at least Ground plus one storied building having framed/composite construction. The set to also include at least two civil details out of following.
    I. Façade / skin of the building with fenestration and weather protection.
    II. Stairway/ staircase
    III. Public Washroom
- Interior layout of any one space of about 25sq.m. Area showing furniture layout, fittings, lighting, partitions, reflected ceiling plan to a suitably large scale. And any one construction detail related interior finishes/ custom made furniture of following.
    I. Suspended ceiling
    II. Paneling or partitions
- A rough folio comprising of design development drawings, sketches supporting the final working drawing set shall be retained by the candidate.

***

सावित्रीबाई फुले पुणे विद्यापीठ

दूरध्वनी क्रमांक :
०२०—२५६९१२३३
२५६०१२५८
२५६०१२५९

शैक्षणिक विभाग
गणेशखिंड, पुणे—४११ ००७
टेलिग्राफ : 'युनिपुणे'
फॅक्स : ०२०—२५६९१२३३
वेबसाइट : www.unipune.ac.in
इ—मेल : boards@pun.unipune.ac.in

संदर्भ क्र. :सी.बी./इंजि / १७३

दिनांक : ०४/०२/२०१५

परिपत्रक क्र.१५/२०१५

विषय:— अभियांत्रिकी विद्याशाखेअंतर्गत B. Arch. and M. Arch. (Credit System) च्या नवीन अभ्यासक्रमांस व आराखडयास शैक्षणिक वर्ष २०१५—१६ पासून मान्यता देण्याबाबत..... .....

विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार सर्व संबंधितांस या परिपत्रकाद्वारे कळविण्यात येते की, अभियांत्रिकी विद्याशाखेअंतर्गत B. Arch. and M. Arch. (Credit System) च्या खालील नवीन अभ्यासक्रमांस व आराखडयास शैक्षणिक वर्ष २०१५—१६ पासून मान्यता देण्यात येत आहे.

1. B. Arch. (2015 Course)
   - First and Second Year B. Arch.
2. M. Arch. (2015 Course):
   - M. Arch. (Landscape); M. Arch. (Environmental Architecture); M. Arch. (Digital Architecture); M. Arch. (Architectural Conservation) and M. Arch. (Computer Applications)

पुणे विद्यापीठाच्या सर्व संलग्न वास्तुशास्त्र महाविद्यालयांचे मा. प्राचार्य यांना विनंती की, सदर परिपत्रकाचा आशय सर्व सबंधित प्राध्यापक व विद्यार्थ्यांच्या निदर्शनास आणून द्यावा.

4/2/15
सचालकांकरिता
(म.वि.वि.मं)

ित माहितीसाठी व पुढील योग्य त्या कार्यवाहीसाठी:—

१. मा. अधिष्ठाता, अभियांत्रिकी विद्याशाखा
२. मा. संचालक, बी.सी.यु.डी.
३. मा. प्राचार्य, सर्व वास्तुशास्त्र महाविद्यालये
४. मा. संचालक, सर्व मान्यताप्राप्त संस्था
५. मा. परीक्षा नियंत्रक, पुणे विद्यापीठ
६. मा. संचालक, स्पर्धा परीक्षा केंद्र
७. मा. उपकुलसचिव, परीक्षा (१,२)
८. मा. सिस्टीम ॲनालिस्ट डेटा प्रोग्रेसिंग युनिट
९. मा. उपकुलसचिव, प्रवेश
१०. मा. उपकुलसचिव, विकास
११. मा. उपकुलसचिव, पात्रता
१२. सहाय्यक कुलसचिव (परीक्षा समन्वय)
१३. सहाय्यक कुलसचिव (परीक्षा—एस.ॲण्ड टी. विभाग)
१४. सहाय्यक कुलसचिव (गोपनीय कक्ष)
१५. सहाय्यक कुलसचिव (परदेशी विद्यार्थी केंद्र)
१६. सहाय्यक कुलसचिव (सभा दप्तर)
१७. कायदा अधिकारी
१८. जनसंपर्क अधिकारी
१९. कक्षाधिकारी (बहि:स्थ)
२०. कक्षाधिकारी (पात्रता विभाग)
२१. प्रमुख, विद्यापीठ उपकेंद्र : अहमदनगर, नाशिक.

वि.प. उराव क्र. ब ४० पीए/४० /१४, दि. ३० डिसेंबर, २०१४

सावित्रीबाई फुले पुणे विद्यापीठ

(पूर्वीचे पुणे विद्यापीठ)

दूरध्वनी क्रमांक :
०२०—२५६९१२३३
२५६०१२५८
२५६०१२५९

शैक्षणिक विभाग
गणेशखिंड, पुणे—४११ ००७
टेलिग्राफ : 'युनिपुणे'
फॅक्स : ०२०—२५६९१२३३
वेबसाइट : www.unipune.ac.in
इ—मेल : boards@pun.unipune.ac.in

संदर्भ क्र. :सी.बी./इंजि. /34

दिनांक : 10/01/2017

परिपत्रक क्रमांक. 10 /२०१७

विषय :— तृतीय, चतुर्थ व पंचम वर्ष बी.आर्च २०१५ पॅटर्न अभ्यासक्रम शैक्षणिक वर्ष २०१७—१८ पासून लागू करण्यासंदर्भात.

विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार सर्व संबंधितांस या परिपत्रकाद्वारे कळविण्यात येते की, तृतीय, चतुर्थ व पंचम वर्ष बी.आर्च २०१५ पॅटर्न अभ्यासक्रमास शैक्षणिक वर्ष २०१७—१८ पासून मान्यता देण्यात येत आहे.

सदर अभ्यासक्रम सावित्रीबाई फुले पुणे विद्यापीठाच्या www.unipune.ac.in या वेबसाईटवर Syllabi–Engineering या शीर्षकाखाली उपलब्ध आहे.

सावित्रीबाई फुले पुणे विद्यापीठाच्या सर्व संलग्न वास्तुशास्त्र महाविद्यालयांचे मा. प्राचार्य यांना विनंती की, सदर परिपत्रकाचा आशय सर्व सबंधित प्राध्यापक व विद्यार्थ्यांच्या निदर्शनास आणून द्यावा.

10/1/17

सचालकांकरिता
(म.वि.वि.मं)

क. गा. प.

प्रत माहितीसाठी व पुढील योग्य त्या कार्यवाहीसाठी:—

१. मा. समन्वयक, अभियांत्रिकी विद्याशाखा
२. मा. संचालक, म.वि.वि.गं
३. मा. प्राचार्य, सर्व वास्तुशास्त्र महाविद्यालये
४. मा. संचालक, सर्व मान्यताप्राप्त संस्था
५. मा. परीक्षा नियंत्रक, सा. फु. पुणे विद्यापीठ
६. मा. संचालक, स्पर्धा परीक्षा केंद्र
७. मा. उपकुलसचिव, परीक्षा (१,२)
८. मा. सिस्टीम ॲनालिस्ट डेटा प्रोग्रेसिंग युनिट
९. मा. उपकुलसचिव, नियोजन व विकास
१०. मा. उपकुलसचिव, (पात्रता विभाग)
११. मा. उपकुलसचिव (सभा दप्तर)
१२. मा. संचालक (परदेशी विद्यार्थी केंद्र)
१३. सहायक कुलसचिव, शैक्षणिक प्रवेश विभाग
१४. सहायक कुलसचिव (गोपनीय कक्ष)
१५. सहायक कुलसचिव (परीक्षा—एस.ॲण्ड टी. विभाग)
१६. सहायक कुलसचिव (परीक्षा समन्वय)
१७. वरिष्ठ कायदा अधिकारी
१८. जनसंपर्क अधिकारी
१९. कक्षाधिकारी (बहि:स्थ)
२०. प्रमुख, विद्यापीठ उपकेंद्र : अहमदनगर, नाशिक.

वि.प. ठराव क्र. ब ०३ पीए/०३/२०१६, दि. २९ नोव्हेंबर, २०१६

SAVITRIBAI PHULE PUNE UNIVERSITY

COURSE STRUCTURE

FIVE YEAR DEGREE COURSE IN ARCHITECTURE

[B.ARCH.]

TO BE IMPLEMENTED FROM 2015-16

BOARD OF STUDIES IN ARCHITECTURE

FACULTY OF ENGINEERING

COURSE STRUCTURE
FIVE YEARS DEGREE COURSE
BACHELOR OF ARCHITECTURE

As per the Council of Architecture guidelines approx. 75% course curriculum is prescribed. While remaining may be as per the individual philosophy of the institute. A total of 40 periods (45 min duration) per week per term shall be conducted for the course. Out of these 36 periods are specified below. 4 periods per week are given to the institutions to orient the course as per their own philosophy. Intensive study as per the institution's philosophy may also be done in addition to the detail syllabus in each subject.

The periods considered for calculating the teaching load are of 45 min duration. The credit calculation is based upon 60 minutes amounting to one credit.

Considering the peculiarity of Architecture Education, the studio load is considered equal to the lecture load as one to one contact with the students is desirable and hence credits are calculated by considering full load of lecture and studio periods.

The detail structure of the syllabus for the ten semesters course is given below.

(Note : SS= Sessional work ; PP=theory Paper ; SV = Sessional + Viva voce)

FIRST YEAR B.ARCH. SEM. I

Code	Subject	Teaching Scheme Periods/Week		Examination Scheme				Total Marks	Credits
		Lecture	Studio	In Semester	Sessional	Oral	End Semester		
1201501	Design I	3	7	--	200	50	--	250	7
1201502	Building Technology & Materials I (SV)	3	4	30			70	200	5
1201503	Building Technology & Materials I (PP)				50	50			
1201504	Theory of Structures I (PP)	1	2	30			70	100	2
1201505	Arch Drawing & Graphics I	2	5	--	100	--	--	100	4
1201506	Humanities	2	1	--	50	--	--	50	2
1201507	Introduction to Architecture	2	1	--	50	--	--	50	2
1201508	Workshop I	1	2	--	50	--	--	50	2
		14	22					800	24

FIRST YEAR B.ARCH. SEM. II

Code	Subject	Teaching Scheme Periods/Week		Examination Scheme				Total Marks	Credits
		Lecture	Studio	In Semester	Sessional	Oral	End Semester		
1201509	Design II	3	7	--	200	50	--	250	7
12015010	Building Technology & Materials II(SV)	3	4	30			70	200	5
12015011	Building Technology & Materials II (PP)				50	50			
1201512	Theory of Structures II	1	2	30			70	100	2
1201513	Arch Drawing & Graphics II	2	5	--	100	--	--	100	4
1201514	History of Architecture I	2	1	--	50	--	--	50	2
1201515	Climatology	2	1	--	50	--	--	50	2
1201516	Workshop II	1	2	--	50	--	--	50	2
		14	22					800	24

SECOND YEAR B.ARCH. SEM. III

Code	Subject	Teaching Scheme Periods/Week		Examination Scheme				Total Marks	Credits
		Lecture	Studio	In Semester	Sessional	Oral	End Semester		
2201517	Design III	3	8	--	200	50	--	250	7
2201518	Building Technology & Materials III(SV)	3	4	30			70	200	5
2201519	Building Technology & Materials III(PP)				50	50			
2201520	Theory of Structures III	1	2	30			70	100	2
2201521	Building Services I (SS)	2	2		50			150	3
2201522	Building Services I (PP)			30			70		
2201523	History of Architecture II	2	1	--	50	--	--	50	2
2201524	Arch Drawing & Graphics III	2	3	--	100	--	--	100	3
2201525	Surveying & Levelling	1	2	--	50	--	--	50	2
		14	22					900	24

SECOND YEAR B.ARCH. SEM. IV

Code	Subject	Teaching Scheme Periods/Week		Examination Scheme				Total Marks	Credits
		Lecture	Studio	In Semester	Sessional	Oral	End Semester		
2201526	Design IV	3	8	--	200	50	--	250	7
2201527	Building Technology & Materials IV(SV)	3	4	30			70	200	5
2201528	Building Technology & Materials IV (PP)				50	50			
2201529	Theory of Structures IV	1	2	30			70	100	2
2201530	Building Services II (SS)	2	2		50			150	3
2201531	Building Services II (PP)			30			70		
2201532	History of Architecture III	2	1	--	50	--	--	50	2
2201533	Technical Communication	1	2		50			50	2
2201534	Working Drawing I	2	3		100			100	3
		14	22					900	24

THIRD YEAR B.ARCH. SEM. V

Code	Subject	Teaching Scheme Periods/Week		Examination Scheme				Total Marks	Credits
		Lecture	Studio	In Semester	Sessional	Oral	End Semester		
3201535	Design V	3	8	--	200	50	--	250	7
3201536	Building Technology & Materials V(SV)	3	4	30			70	200	5
3201537	Building Technology & Materials V (PP)				50	50			
3201538	Theory of Structures V	1	2	30			70	100	2
3201539	Landscape Architecture I	1	3		50			50	2
3201540	Building Services III (SS)	2	2		50			150	3
3201541	Building Services III (PP)			30			70		
3201542	History of Architecture IV	2	1	--	50	--	--	50	2
3201543	Working Drawing II	2	2		100			100	3
		14	22					900	24

THIRD YEAR B.ARCH. SEM. VI

Code	Subject	Teaching Scheme Periods/Week		Examination Scheme				Total Marks	Credits
		Lecture	Studio	In Semester	Sessional	Oral	End Semester		
3201544	Design VI (SV)	3	8	--	200	50		350	7
3201545	Design VI (PP)			--	--	--	100		
3201546	Building Technology & Materials VI(SV)	3	4	30			70	200	5
3201547	Building Technology & Materials VI (PP)				50	50			
3201548	Theory of Structures VI	1	2	30			70	100	2
3201549	Landscape Architecture II	1	3		50			50	2
3201550	Building Services IV(SS)	2	2		50			150	3
3201551	Building Services IV (PP)			30			70		
3201552	Contemporary Arch Seminar	1	3	--	50	--	--	50	3
3201553	Elective I	1	2		50			50	2
		12	24					950	24

FOURTH YEAR B.ARCH. SEM. VII

Code	Subject	Teaching Scheme Periods/Week		Examination Scheme				Total Marks	Credits
		Lecture	Studio	In Semester	Sessional	Oral	End Semester		
4201554	Design VII	3	9		200	50		250	8
4201555	Advanced Building Technology and Services I	3	4		150	50		200	5
4201556	Professional Practice I	1	2	30			70	100	2
4201557	Urban Studies I	1	2		50			50	2
4201558	Research in Architecture I	1	2		50			50	2
4201559	Quantity Surveying and Estimation I	1	2	30			70	100	2
4201560	Specification Writing I	1	2	30			70	100	2
4201561	Elective II	1	1		50			50	1
		12	24					900	24

FOURTH YEAR B.ARCH. SEM. VIII

Code	Subject	Teaching Scheme Periods/Week		Examination Scheme				Total Marks	Credits
		Lecture	Studio	In Semester	Sessional	Oral	End Semester		
4201562	Design VIII	3	9		200	50		250	8
4201563	Advanced Building Technology and Services II	3	4		150	50		200	5
4201564	Professional Practice II	1	2	30			70	100	2
4201565	Urban Studies II	1	2		50			50	2
4201566	Research in Architecture II	1	2		50			50	2
4201567	Quantity Surveying and Estimation II	1	2	30			70	100	2
4201568	Specification Writing II	1	2	30			70	100	2
4201569	Elective III	1	1		50			50	1
		12	24					900	24

FIFTH YEAR B.ARCH. SEM. IX

Code	Subject	Teaching Scheme Periods/Week		Examination Scheme				Total Marks	Credits
		Lecture	Studio	In Semester	Sessional	Oral	End Semester		
5201570	Practical Training	--	--	--	150	50	--	200	8
		--						200	8

FIFTH YEAR B.ARCH. SEM. X

Code	Subject	Teaching Scheme Periods/Week		Examination Scheme				Total Marks	Credits
		Lecture	Studio	In Semester	Sessional	Oral	End Semester		
5201571	Architectural Design Project	4	16	--	350	100	--	450	12
5201572	Elective IV	1	2		50			50	2
		5	18					500	14

SAVITRIBAI PHULE PUNE UNIVERSITY

DETAILED SYLLABUS OF FIRST YEAR

[B.ARCH.]

TO BE IMPLEMENTED FROM 2015-16

BOARD OF STUDIES IN ARCHITECTURE

FACULTY OF ENGINEERING

SESSIONAL WORK:

- Sessional work should be planned to cover all the units mentioned in course outline with thrust on skill development, accuracy and understanding of the topic.
- Twenty five percent weightage in assessment should be given to the assignments of sketching
- Minimum of Eight manually drafted assignments to cover the course outline based on the following modules:

a	Architectural scales and annotations	2 to 3 Assignments
b	Orthographic (plan, section/s, elevation/s) isometric, axonometric projections of three dimensional objects and building components	5 Assignment
c	Scale drawing of building/s of sufficient size to demonstrate basic building components, standard annotations.	1 to 2 Assignments

RECOMMENDED READINGS

1. Ching Francis D.K.: Architectural Graphics
2. Kelsey W. E.: Geometrical & Building Drawing
3. Leslie Martin: Architectural graphics:
4. B. James: Essential of Drafting
5. H. Joseph and Morris: Practical plane and solid geometry
6. Gill Robert: Rendering with pen and ink
7. Burden Ernest: Architectural Delineation

HUMANITIES

HUMANITIES			
Subject Code		1201506	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=2 Studio=1)	3	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 NIL NIL
		In semester exam	NIL
		End Semester exam	NIL
		Total Marks	50
		Total Credits	2

COURSE OBJECTIVE

- To introduce the students to the study of humanities and its importance in understanding of human settlements and architecture.

COURSE OUTLINE

- To introduce the disciplines of study such as anthropology, sociology, linguistics, philosophy, history, political science and understand their connection with understanding of architecture.
- To introduce the students to the aspects of human society, civilisation and culture.

SESSIONAL WORK

- The sessional work shall comprise of minimum one tutorial and two assignments.

RECOMMENDED READINGS

1. History of World Civilizations by J.E. Swain.
2. A Short History of the World – H.G.Wells
3. The Ascent of Man – J. Bronowski

4. Indian Architecture (Vol. I & II) by Percy Brown.
5. History of Indian and Eastern Architecture by James Fergusson.
6. Hindu India by Henry Stierlin.
7. Islamic Architecture in India by Satish Grover.
8. The History of Architecture in India by Christopher Tadgell.
9. A History of Fine Arts in India and West by Edith Tomory.

CLIMATOLOGY

CLIMATOLOGY			
Subject Code		1201515	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=2 Studio=1)	3	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 NIL NIL
		In semester exam	NIL
		End Semester exam	NIL
		Total Marks	50
		Total Credits	2

COURSE OBJECTIVES:

To understand climate as a determinant of architectural design and to enable the students to evolve climate responsive design.

COURSE OUTLINE

- Introduction to elements of nature, variables of climate (definitions, measurement and significance).
- Global climate, regional variations and microclimate.
- Climatic zones in India and respective traditional climate responsive architecture.
- Concept of heat exchange in buildings. Theory and concept of thermal comfort, comfort indices and its application to architectural design.
- Climate responsive design strategies like site planning, orientation, building form, shading, ventilation, materials and technology.

SESSIONAL WORK

- One individual design assignment related to design of openings with respect to their size, location , shading and ventilation.
- One individual study assignment each based on climatic responsive building from traditional and contemporary architecture.

RECOMMENDED READINGS

1. Climatology Fundamentals and application – John R Mather
2. Introduction to Climatology – Anthony Sealey.
3. Climatologically & Solar data for India – T. N. Seshadry.
4. Climatic Design – Watson Donald.
5. Manual of tropical housing and building – Koenigsberger & Ingersol.
6. Tropical Architecture – Maxwell Fry & Jane Drew
7. Design Primer for Hot Climate – Allan Konya
8. Sun, Wind and Light by G. Z. Brown.
9. Energy Efficient Housing by Mili Majumadar, Published by TERI.
10. Climatically Responsible Energy Efficient Architecture by Arvindkrishnan.
    Housing Climate and Comfort by Martin Evans.

INTRODUCTION TO ARCHITECTURE

INTRODUCTION TO ARCHITECTURE			
Subject Code		1201507	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=2 Studio=1)	3	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 NIL NIL
		In semester exam	NIL
		End Semester exam	NIL
		Total Marks	50
		Total Credits	2

COURSE OBJECTIVES:

To introduce the students to the field of Architecture, its scope, and fundamentals.

COURSE OUTLINE

- Introduction to the profession of architecture and its distinguishing characteristics with respect to other professions, trades and businesses.
- Scope of Architecture as a discipline and Architect as a professional.
- Fundamentals of architecture- function, form and structure, and their integration.
- Generators of architectural design- site, function, circulation, context, structural system and materials, aesthetic principles, sustainability.

SESSIONAL WORK

- Minimum 3 individual assignments covering the generators of architectural design as mentioned above.

RECOMMENDED READINGS

1. Architecture : Form, Space and Order – F.D.K.Ching
2. Design fundamentals in Architecture – Pramar
3. A Visual Dictionary of Architecture - F.D.K.Ching

WORKSHOP I

WORKSHOP I			
Subject Code		1201508	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=2 Studio=1)	3	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 NIL NIL
		In semester exam	NIL
		End Semester exam	NIL
		Total Marks	50
		Total Credits	2

COURSE OBJECTIVES:

- Introducing students to various materials and techniques used in making Architectural models.
- Enabling Students to make Architectural models for study and presentation.

COURSE OUTLINE:

- Introduction to various materials (such as paper, mount board, thermocol, foamboard, etc.) tools and techniques of architectural model making through construction of simple three dimensional objects and scaled building models.
- Models should preferably be co-ordinated with other subjects like 'Design', 'Building technology', 'Theory of Structure', 'History of Architecture and human settlement' etc.

SESSIONAL WORK:

- Sufficient number of assignments to cover the topics given below, with thrust on exploring maximum materials and techniques, understanding their appropriateness for the purpose and skill development.

a	Three dimensional objects	1 to 2 Assignments
b	Models based on Design projects	1 to 2 Assignments
c	Based on building technology topics	2 to 3 Assignments
d	Based on history of architecture and theory of structure	1 to 2 Assignment

RECOMMENDED READINGS

- John Taylor, Model Building for Architects and Engineers
- Rolf Janke, Architectural Models

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DESIGN II

Design II			
Subject Code		1201509	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=3 Studio=7)	10	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	100 100 25 25
		In semester exam	NIL
		End Semester exam	NIL
		Total Marks	250
		Total Credits	7

COURSE OBJECTIVES:

- To introduce the students to the iterative design process and various channels of creativity.

COURSE OUTLINE:

- To comprehend various design alternative processes like binary, cyclic, intuitive, bio-mimicry etc. and the importance of literature, humanities and case studies in the design process.
- To comprehend the symbiotic relationships between creativity, arts, crafts, environment, human spatial experience, structure with Design.
- Techniques of improving creativity in design such as brainstorming, mind maps, tree of possibilities, lateral thinking, matrix of ideas etc.
- Study of spaces: Positive and Negative Spaces, Human scale and user perception and experience of space.
- Activity & Spatial Relationship in terms of size, shape and volume of space; Concept of circulation and activity relationship diagrams.
- Study of a nearby rural, semi urban settlement / community for study, analysis and documentation of its built elements, open spaces and associated architectural character.

SESSIONAL WORK:

- Minimum 6 number of assignments to cover the study of forms and spaces and principles of organization, scale and experience, etc. on A3 size sheets and/or models.
- Graphic documentation and analysis of the settlement study with sufficient individual work contribution.
- One spatial/ building design projects with single use spaces approximately 150-200 sq.m such as café, reading hall, parking layout, tourist facility, public toilet etc. preferably in the context of settlement/community study carried out and communicated effectively through graphical drawings, two and three-dimensional sketches, models and narratives.

RECOMMENDED READINGS

1. Peter Pearce, Structure in Nature – Strategy for Design.
2. Peter Streens, Patterns in Nature.
3. Anthony Antoniadis - Poetics in Architecture: Theory of design.
4. Am heim Rudolf, Visual Thinking.
5. John R. Mather -Climatology: Fundamentals and Application.
6. Maxwell Fry And Jane Drew -Tropical Architecture.
7. Paul Lassau - Graphic thinking for Architects and planners.
8. Jonathan A. Hale -Building Ideas. An introduction to Architectural Theory.

BUILDING TECHNOLOGY AND MATERIALS II

BUILDING TECHNOLOGY AND MATERIALS II			
Subject Code		1201510(SV) 1201511(PP)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=3 Studio=4)	7	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 25 25
		In semester exam	30
		End Semester exam	70
		Total Marks	200
		Total Credits	5

COURSE OBJECTIVES

- To help students understand the basic building elements, their function and behaviour under various conditions with specific reference to timber construction.
- To help students to develop a clear understanding of the basic principles of construction and materials suitable for load bearing construction.
- To help students develop and analytical and logical sequence in thinking about structural aspects of architecture.

COURSE CONTENTS

Unit 1

- Construction of reinforced masonry walls, pillars and lintels

Unit 2

- Study of building materials like bamboo, timber, timber derivatives, roofing materials for small span sloping roofs including Mangalore tiles with reference to their characteristics, market forms, applications and preservation, etc.

Unit 3

SAVITRIBAI PHULE PUNE UNIVERSITY

DETAILED SYLLABUS OF SECOND YEAR

[B.ARCH.]

TO BE IMPLEMENTED FROM 2016-17

BOARD OF STUDIES IN ARCHITECTURE

FACULTY OF ENGINEERING

DESIGN III

Design III			
Subject Code		2201517	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=3, Studio=8)	11	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	100 100 25 25
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	250
		Total Credits	7

COURSE OBJECTIVES:

- To comprehend Design as iterative process at various scales/ levels.
- To comprehend relationship between design, visual arts, building construction, climatology, building materials, structure etc and evolve a design solution.

COURSE OUTLINE:

- Aesthetical, functional (activity, user, space relation) , technical (construction and material) and environmental (climatic, socio-geographic) aspects of architectural design.
- Various sources for inspiration for architectural design such as nature, history, geometry, culture etc.
- Design projects to focus on multi-functional, multi-cellular built environments such as nursery school, library, canteen, house, primary medical centre, creshe, community hall, health club, hobby centre for children etc.

SESSIONAL WORK:

Minimum two Architectural design assignments with multi-cellular dual level spaces approximately 300-500 sq.m and communicated effectively through architectural graphics, two and three-dimensional sketches, models and narratives. Additional one eskee of short duration.

REFERENCE BOOKS

1. Antoniades, C. Anthony: Epic Space: Towards roots of Western Architecture.
2. Robert Sommer. -Design Awareness.
3. C.M. Deasy -Design for Human Affairs.
4. Christopher Alexander- Pattern Language.
5. Anthony Sealey, Introduction to Climatology.
6. Karen A. Frank and R. Bianca Lepori, Architecture from the Inside Out.
7. Heller Robert and Salvadori Mario, Structure in Architecture.

BUILDING TECHNOLOGY AND MATERIALS III

BUILDING TECHNOLOGY AND MATERIALS III			
Subject Code		2201518(SV) 2201519(PP)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=3, Studio=4)	7	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 25 25
		In-semester exam	30
		End Semester exam	70
		Total Marks	200
		Total Credits	5

Unit VI:

- Plane Table Surveys; Accessories used in plane tabling, methods of locating objects, methods of table orientation, Advantages and disadvantages.

Unit VII:

- Use of Planimeter: Area of zero circle, calculating area of irregular shape figures.

SESSIONAL WORK

Based on field measurements sheet entered in field book :
1) Calculation of area of field(Chain and cross staff survey)
2) Compass Survey.
3) Plane Table Survey.
4) Block Contour Survey.
5) Profile Levelling.

DESIGN IV

Design IV			
Subject Code		2201526	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=3, Studio=8)	11	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	100 100 25 25
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	250
		Total Credits	7

COURSE OBJECTIVES:

- To comprehend site specific stimuli through responses to physical, climate, visual, cultural contexts through indigenous construction, technology, building materials, structure etc.

COURSE OUTLINE:

1. Multiple layering of architectural space (without aid of mechanical means of vertical transport), its relationship with structure, technology and resultant built form; Concept of earthquake resilient structural systems for indigenous applications.
2. Attributes of Architectural character through application of indigenous materials, construction methods.
3. Function and space studies; defined user group specific perception of space; Concept of minimum and maximum limits of development wrt to foot print, building heights.
4. Concept of Passive solar responses; fenestration design.
5. Site analysis wrt to surroundings; zoning and activity distribution;Circulation and activity relationships through adjacencies, achieving performance integrity through functional adjacencies and elementary services of water and drainage.
6. Study and analysis of multicellular, multiple level (without aid of mechanical means of vertical transport), spacesby application of principles of functionality, climate, composition, and aesthetics.
7. Study of a Settlement of a semi urban type/ community in an urban location and the analysis and documentation w.r.t. lifestyle of occupants, climatic and topographical response, semipublic built and open spaces, and associated architectural character.

SESSIONAL WORK:

- Graphic documentation and analysis of the settlement study and along with a short written report with one design assignment related to the settlement studied.
- Minimum one architectural design project (other than the one mentioned above) with multicellular multi-level spaces such as primary school, hostel, sports facility, resorts, medical facility, etc. approximately 1000-1200 sq.m. and effectively communicated through architectural graphics, two and three-dimensional sketches, models and narratives.

Unit 4.Design of Various R.C.C Members as per I.S.456

1. Span to Depth Ratios for various flexural members.
2. Concept of one way and two way slab. Importance of distribution steel in one way slab.
3. Design of One Way Slab for different live loads and floor finishes.
4. Design of Two Way Slab using Rankine Gashroff Method of load distribution/constants
5. Design of Singly Reinforced Beam with Shear Reinforcement.
6. Design of Chajja, and Cantilever Slabs.
7. Design of Short R.C.C Columns. Reduction factor for long R.C.C columns. I.S. Provisions. All Answers to include Schedules, and Typical Reinforcement Details.
8. Bond, Lap in Reinforcement, Development Length and Placing of Reinforcement. Theory only.

RECOMMMENDED READING

1. Design of Steel Structures: Vazirani-Rathwani.
2. Design of Steel Structures-Negi.
3. R.C.C.Design –Khurmi, Punmia, Sushilkumar.
4. Elements of Structure –Morgan.
5. Structure in Architecture-Salvadori and Heller.
6. Structural Decisions-F.Rosenthal.

BUILDING SERVICES II

BUILDING SERVICES II			
Subject Code		2201530(SS) 2201531(PP)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=2, Studio=2)	4	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 NIL NIL
		In-semester exam	30
		End Semester exam	70
		Total Marks	150
		Total Credits	3

COURSE OBJECTIVES

To introduce students to following Building Services in low, medium and high rise buildings and inculcate in them the integration of services in architectural design. This term aims at following two services.

- Lighting and electrification.
- Introduction to rainwater harvesting and alternative energy sources.

COURSE OUTLINE

UNIT I **Waste Disposal.**

- Collection and disposal of organic and in-organic waste
- Sacks, bins, grinders , incinerators , compactors and refuse chutes.
- Vermiculture and composting.

UNIT II **Lighting:**

- Indoor lighting- natural and artificial
  - Systems of lighting such as direct, indirect, diffused.
  - Applications of lighting systems with special reference to levels of illumination for various uses and lumen method calculations.
  - Light fittings.

UNIT III Electrification.

- Introduction to general distribution of electric power in urban areas, substations for small schemes in industrial units.
- Electrical installations in a building from the supply company mains to individual outlet points including meter board, distribution board, layout of points with load calculations.
- Electrical wiring systems for small and large installations including different materials involved
- Electrical control and safety devices – switches, fuse,circuit breakers earthing, lightning conductors etc.

SESSIONAL WORK

- Preparing electrical layout and lighting plan of a building interior supported with necessary calculations (70% weightage).
- Visits to construction sites and preparing site visit reports, market survey and finding out latest trends and new materials (30% weightage).

RECOMMENDED READING

- Daylight in Architecture-Benjamin Evans.
- Lighting in Buildings-Hapkinsen H.D.Kajr.
- Lighting in Architectural Design.-Derek Philips.
- BBC83 P[art VII, Section I, Lighting and Ventilation.

HISTORY OF ARCHITECTURE III

HISTORY OF ARCHITECTURE III			
Subject Code		2201532	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=2, Studio=1)	3	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 NIL NIL
		In-semester exam	NIL
		End Semester exam	NIL
		Total Marks	50
		Total Credits	2

COURSE OBJECTIVE

- To introduce student to architectural development with reference to time, space and people.

COURSE OUTLINE

- To introduce students to the evolution of architecture of the Indian sub-continent from 1st century CE to 18th century CE.
  - Architecture of the Buddhists, Hindus and Jains and its evolution with reference to regional and stylistic variations.
  - Architecture under Islam.
  - Evolution of form, technique and ornamentation, and regional and stylistic variations in Indian architecture
  - Architecture of Maharashtra in the 18th and 19th centuries.
- To sensitize students to the linkages between architecture and the socio- cultural, political and economic context of the period.
- To introduce students to the developments in technology and the subsequent effect on architecture.

- To familiarize students with noteworthy architectural productions from this period and their significance.
- To introduce students to the regional and temporal variations in archetypes and the rationale for the same.
- To study in detail extant examples from this period available in the region of the college.

SESSIONAL WORK

- At least 2 project based assignments and one tutorial AND
- Detailed measured drawing and documentation of one building/ complex dating from the above mentioned period.

TECHNICAL COMMUNICATION

TECHNICAL COMMUNICATION			
Subject Code		2201533	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=1, Studio=2)	3	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 NIL NIL
		In-semester exam	NIL
		End Semester exam	NIL
		Total Marks	50
		Total Credits	2

COURSE OBJECTIVES

- To equip the students to communicate effectively using various modes of communication such as graphical, textual, oral and help them to develop various soft skills.

COURSE CONTENT

- Writing skills : Formal letter writing, job applications, preparing a resume, reporting an event, précis writing, comprehension in English.
- Oral skills : Group discussions, giving a speech, appearing for an interview.
- Presentation skills : Presenting using power point presentation, graphical modes (sketching, 3D views).
- Body language, appearance, gestures, voice modulation, speech organization etc.
- Using various computer applications such as word processing, MS excel, photoshop etc.

SESSIONAL WORK

- Minimum 10 assignments to cover all the aspects of the course content mentioned above.

WORKING DRAWING I

WORKING DRAWING I			
Subject Code		2201534	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=2, Studio=3)	5	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	50 50 NIL NIL
		In-semester exam	NIL
		End Semester exam	NIL
		Total Marks	100
		Total Credits	3

COURSE OBJECTIVES

- To enable the students to prepare working drawings of an architectural project and imbibe the significance of working drawings from the point of view of execution of the work on site and as important component of tender documents.

COURSE CONTENT

- Introduction to the concept of working drawings and their importance.
- Graphical presentation of all the components of a building along with dimensioning and annotations.
- Understand and apply IS Codes and internationally accepted norms / conventions / methods of repairing a working drawing along with tabulation of schedules of materials, finishes and hardware.

SESSIONAL WORK

- One working drawing of an architectural design project having load bearing structure with minimum 100 sq. m. carpet area. (4 to 5 drawings).
- At least two details such as doors / windows / railings / kitchen otah etc. (1 drawing)

DRAFT SYLLABUS FOR APPROVAL OF FACULTY

Third year 2015 Pattern

Semester V

Design V			
Subject Code		3201535	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week= 11 (lectures=3, Studio=8)		Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	100 100 25 25
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	250
		Total Credits	7

COURSE OBJECTIVES:

- Design of Campus comprising of more than one building and evolving design in response to the site, its characteristics and the context.
- Designing of buildings with different functions, requiring spaces of different scales and employing suitable structural systems.

COURSE OUTLINE:

- Designing in a different socio geographic context [other than where the institute is located].
- Undertake programming research to understand the socio-cultural patterns, geographic context and address the needs of the users and the site and evolve a sustainable design.
- Creation and design of open spaces within the campus.
- Study, analysis and synthesis of various design parameters in built-unbuilt spatial relationship.
- Conceptualizing services such as storm water management, locations of water tanks, sewage disposal system, etc.
- Introduction to functions requiring column free spaces and employing suitable structural systems.
- Modular planning, grid planning and coordination of various grids in plan and three dimensions.
- Time bound decision making and preparing sketch design.

SESSIONAL WORK:

- A major design project of duration 10-12 weeks of campus planning. Example : Residential school, Club, Institutional buildings, Home for the elderly, Community centre, Resort etc.
- A minor design project of duration 4-6 weeks which could be stand alone building on a site with a focus on two to three activities housed in one building with area not less than 1500 sq.m. Example : Diagnostic centre, Dining hall, Convenience shopping etc.
- One time bound project of duration around 12 hours. The typology and scale of the project can be decided by the college.

Important Note : At least one of the two projects [major or minor] mentioned above has to be in a different socio geographic context. The design has to be communicated through architectural graphics, two and three-dimensional sketches, models and narratives. All the design projects must have different sites.

LANDSCAPE ARCHITECTURE I			
Subject Code		3201539(SS)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=1, Studio=3)	04	Sessional (Internal) Sessional (External) Viva (Internal)	25 25 nil nil
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	50
		Total Credits	2

COURSE OBJECTIVES:

- To introduce the students to Landscape Architecture and its scope.
- To understand the elements and principles of landscape design and role of landscape elements in design of outdoor environments on the site.
- To introduce the students to various traditions in designed and vernacular landscapes.
- To develop understanding of site analysis and site planning and integrated design of open and built spaces.
- Creating awareness about using Landscape design as a tool to address environmental concerns in Architecture.

COURSE OUTLINE:

Unit 1. Introduction to Landscape Architecture and its scope ,elements(natural and manmade)and their application in achieving functional, aesthetic, environmental and cultural goals.

Unit 2. Introduction to Landscape history/traditions (Eastern, western, central) with emphasis on Indian Landscape traditions.

Unit 3. Study of Hardscape (civil work) details with respect to materials and construction techniques. This study should be conducted through visits to designed landscapes.

Unit 4. Study of Softscape (plant material), their characteristics and contribution in terms of creating and imparting character to outdoor spaces. This study should be conducted through site/ nursery visit with emphasis on native and naturalized species.

Unit 5 Introduction to environmental concerns and sustainable site planning (rain water harvesting, solid waste management, passive climate control, etc)

Unit 6. Site analysis including understanding natural and manmade aspects (such as microclimate, topography, hydrology, vegetation), physical and socio-cultural context of the site. Introduction to basics of Site planning.

Unit 7. Relevence of Art in landscape design (Land art, art in public spaces, etc) for. Eg. works of Andy Goldsworthy, Richard Shilling, Walter Mason, Jim Denevan, Robert Smithson, Andrew Rogers,Dani Caravan, Simon Beck, AnishKapoor, Neckchand, Subodh Kerkar.

Unit 8. Landscape design Project I- A small scale, theme based Landscape design project culminating into an idea/ concept generation/ 3D visualization that encourages creative thinking.

SESSIONAL WORK:

- Assignments that shall individually or comprehensively cover unit 1 – unit 5. Duration 10-12 weeks.

- Landscape design project with drawings, views, model (optional) holistically representing the concept and the design process .4- 6 weeks.

NOTE: It is expected that application of Unit 6 will be demonstrated in landscape design projects.

REFERENCE BOOKS

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3. Simonds, J .O, *Landscape Architecture: The Shaping of Man's Natural Environment*, N Y: McGraw Hill Book Co.Inc. 1961.
4. Lynch, K, *Site Planning*, Cambridge: The MIT Press, 1962.
5. Shaheer, M, Wahi Dua, G and Pal A (editors), *Landscape Architecture In India, A Reader:* LA, Journal of Landscape Architecture, 2013.
6. Lyall, S, *Designing The New Landscape*: UK:Thames and Hudson, 1998.
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8. Eckbo, G, *Urban Landscape Design,* N Y: McGraw hill co. 1961.
9. Laurie, M, *An Introduction to Landscape Architecture*, N Y: American Elsevier Pub. Co. Inc. 1975
10. Rutledge, A J. *A Visual Approach to Park Design*. New York: John Wiley and Sons, 1985.
11. Randhawa, M S, *Flowering Trees*, New Delhi: National Book Trust, 1998.
12. Bose, T K and Choudhary, K, *Tropical Garden Plants in Colour*, Horticulture and Allied Publishers, 1991.
13. Krishen, P. *Trees of Delhi: A Field Guide*, Penguin India, 2006.
14. Mukherjee, P, *Trees of India (WWF Natures Guide)*, Oxford, 2008.
15. Sahni, K C,*The Book of Indian Trees (Bombay Natural History Society)*, Oxford, 1998.
16. Krishna, N and Amrithalingam, M, *Sacred Plants of India*, Penguin Books Limited, 2014.
17. Motloch, J.L, *Introduction to Landscape Design*, US: John Wiley and Sons, 2001.
18. Dines, N and Harris, C, *Timesavers Standards for Landscape Architecture*, McGraw Hill Education, 1998.
19. Reid, G, L, *Landscape Graphics*, Watson-Guptill, 2002.
20. Botkin, D. B and Keller, E. A, *Environmental Science: Earth As a Living Planet*, N Y: John Wiley And Co. 1995.
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BUILDING SERVICES III			
Subject Code		3201540 (SS) 3201541(PP)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (Lectures = 2 Studio = 2)	4	Sessional (Internal)	25
		Sessional (External)	25
		Viva (Internal)	nil
		Viva (External)	nil
		In-Semester exam	30
		End-Semester exam	70
		Total Marks	150
		Total Credits	3

COURSE OBJECTIVES:

- To comprehend building services as an inclusive part of architectural design process
- To obtain knowledge of technical and design aspects of natural ventilation and HVAC

COURSE OUTLINE:

- Technical and environmental aspects as principles of working, components, construction and materials of natural ventilation and HVAC system
- Functional and aesthetical aspects of services layout for comprehensive architectural design.

Teaching Plan:

Unit I: Natural Ventilation

1.1. Indicators for comfortable condition
1.2. Wind and stack effects, evaporative cooling
1.3. Examples (book/ on site): Implementation of various methods of natural and composite ventilation system in architectural design

Unit II: Mechanical ventilation

2.1. Forced ventilation system
2.2. Types of fans and blowers
2.3. Mounting, sizes and calculation of fans

Unit III: Air-conditioning system 1

3.1. Principles of air-conditioning system
3.2. Components of air-conditioning system

Unit IV: Air-conditioning system 2

4.1 Types of conventional systems of air-conditioning
4.2 Non-conventional systems of air-conditioning

Unit V: Air-conditioning 3

5.1 Air-conditioning layout calculation
5.2 Air-conditioning layout design

Unit VI: Air-conditioning 4

6.1 On site case study: Air-conditioning system

SESSIONAL WORK: (with marking scheme)

- Tutorials for four Units (I to IV): 25% marks
- Layout of air-conditioning (preferably architectural design of the earlier semester to be considered): 50% marks
- On site Case study: 25% marks

REFERENCE BOOKS

1. Tricomi, Ernest. *ABC of Air-conditioning.*1970
2. Smith, Philips & Sweeney. *Environmental Science*
3. Daniels, Klaus. *Advanced Building Systems – A Technical Guide for Architects and Engineers.* Birkhauser, Boston. 2003
4. National Building Code of India

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SESSIONAL WORK:

The sessional work shall comprise of individual/ group work of the students completed under the guidance of the subject teacher as follows:

1. Journal: Hand written notes and manually drawn sketches of relevant examples of most of the contents mentioned above. Journal is an individual work. 20 marks
2. Project work: An exploratory or critical report/ graphical presentation/ analytical models/ tutorials/ etc. based on any relevant topic from the contents mentioned above. Project work could be undertaken in groups such that the contribution of individual students in the group is identifiable. 30 marks

REFERENCE BOOKS

1. Bhatt, V., & Scriver, P. (1990). *Contemporary Indian Architecture- After the Masters.* Ahmedabad: Mapin Publishing.
2. Chhaya, N. (Ed.). *Harnessing the Intangible.* New Delhi: National Institute of Advanced Studies in Architecture.
3. Ching, F. D. (1997). *A Visual Dictionary of Architecture.* New York: Van Nostrand Reinhold.
4. Correa, C. (2010). *A Place in Shade.* Delhi: Penguin Books.
5. Curtis, W. (1988). *Balkrishna Doshi- An Architecture for India.* New York: Rizzoli International.
6. Curtis, W. J. (1996). *Modern Architecture Since 1900.* London: Phaidon Press.
7. Dhongde, S., & Sahasrabudhe, C. (Eds.). (2009). *Achyut Kanvinde.* Pune: BNCA Publication Cell.
8. Didee, J., & Gupta, S. (2013). *Pune - Queen of Deccan.* Pune: INTACH Pune Chapter.
9. Dwivedi, S., & Mehrotra, R. (2008). *Bombay Deco.* Mumbai: RMA Architects.
10. Ford, E. R. (1997). *The Details of Modern Architecture.* MIT Press.
11. Frampton, K. (1992). *Modern Architecture- A Critical History.* London: Thames and Hudson Ltd.
12. Jain, K. (2012). *Architecture- Concept to the Manifest.* Ahmedabad: AADI Centre.
13. Kagal, C. (Ed.). (1986). *Vistara-The Architecture of India.* Bombay: The Festival of India.
14. Kanvinde, A., & Miller, H. (1969). *Campus Design in India.* Topeka: Ostens/American Yearbook Co.
15. Lang, J., Desai, M., & Desai, M. (1997). *Architecture and Independence: The search for identity, India-1880 to1980.* New Delhi: Oxford University Press.
16. Pallasmaa, J. (2009). *The Thinking Hand : Existential and Embodied Wisdom in Architecture.* London: John Wiley and Sons Ltd.
17. Pandya, Y. (2013). *Concpets of Space in Traditional Indian Architecture.* Ahmedabad: Mapin Publisihing.
18. Pandya, Y., & Foundation, V. S. (2007). *Elements of Space Making.* Ahmedabad: Mapin Publishing Pvt Ltd.
19. White, S. (1995). *Building in the Garden: Architecture of Joseph Allen Stein in India and California.* Delhi: Oxford India Paperbacks.
20. Wolfe, T. (1981). *From Bauhaus to Our House.* New York: Farrar Straus Giroux.

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WORKING DRAWING II			
Subject Code		3201543(SS)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=2, Studio=2)	4	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	50 50 Nil Nil
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	100
		Total Credits	3

COURSE OBJECTIVES:

- To Introduce idea of Design Development and detailing and its relevance in converting 'concept design' to working drawing and hence the realization of design on site.
- To imbibe further the importance of working drawings as an essential tool for effective site execution and execution of a building contract.
- To expose to the standard methods, conventions, drawing annotations including International standards, IS codes, its application in working drawing set with material and component and schedules.

COURSE OUTLINE:

- Lecture demonstration/s to elaborate on standard practices, conventions, graphic annotations, sequencing and cross reference systems of a good working drawing set.
- Design development and detailing of own **design** to resolve the design idea to one which can be executed/ constructed, exposing students to construction parameters, limitation and sequencing.
- Generating a working drawing set for the **chosen design/ building** with framed/composite construction including schedules of material, finishes, components and accessories
- Developing and drafting details of Civil work and furniture including schedule of finishes

SESSIONAL WORK:

- Preparing a manually drafted/ CAD generated **working drawing** set of 'own design project' with carpet area not less than 250 Sq. M. and at least Ground plus one storied building having framed/composite construction. **The set to also include** at least two civil details out of following.

I. Facade / skin of the building with fenestration and weather protection.
II. Stairway/ staircase
III. Public Washroom

And

Any one detail related interior finishes/ custom made furniture of following

IV. Floorings,
V. False ceiling
VI. Paneling or partitions
VII. Built in or stand alone furniture

- A rough folio comprising of design development drawings, sketches supporting the final working drawing set shall be retained by the candidate.

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DESIGN VI

Design VI			
Subject Code		3201544(SV),3201545(PP)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week= 11 (lectures=3, Studio=8)	11	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	100 100 25 25
		In-semester exam	nil
		End Semester exam	100 [12 hours duration – to be conducted 6 hours for two days en-lodge]
		Total Marks	350
		Total Credits	7

COURSE OBJECTIVES:

- Designing a building by stacking of different functions vertically and addressing various concerns such as coordinating various building services, vertical circulation, basement parking, and structural grids with introduction to disaster management design strategies/techniques and universal design.

COURSE OUTLINE:

- Introduction to various concerns of building design in an urban context on sites with limited areas there by necessitating multi storied buildings.
- Strengths and weaknesses of horizontal vis a vis vertical spatial arrangements in buildings.
- Study of buildings in which vertical arrangements are desired.
- Design and layering of different activity areas with different spatial scales.
- Coordination of various building services such as water supply, lifts, drainage, garbage disposal, lighting, air conditioning etc.
- Exposure to natural disaster management or disaster management through design mitigation.
- Exposure to Universal Design or Accessible Design concept.

SESSIONAL WORK:

- A major design project of duration 10-12 weeks of a building complex. Example : Hotel, Hospital, Office building, commercial complex, bus station etc.
- A minor design project of duration 4-6 weeks which could be stand alone building on a site with area not less than 1500 sq.m. It is recommended that the minor project may be programmed to integrate knowledge of art-architecture history, contemporary art-architecture movements learnt by the student in history / contemporary architecture seminar.
- One time bound project of duration around 12 hours. The typology and scale of the project can be decided by the college.

Important Note : At least one of the two projects [major or minor] mentioned above has to be in a different socio geographic context. The design has to be communicated through architectural graphics, two and three-dimensional sketches, models and narratives. All the design projects must have different sites.

REFERENCE BOOKS

It is strongly recommended that students refer books focusing on various building types, journals, magazines to widen their knowledge of design and the readings not to be limited to the list of books given below.

1. Correa, C. (2010). A Place in Shade. Delhi: Penguin Books.
2. Kanvinde, A., & Miller, H. (1969). *Campus Design in India*. Topeka: ostens/American Yearbook Co. .
3. Lynch, K. (1962). *Site Planning*. MIT Press.
4. Pandya, Y., & Foundation, V. S. (2007). *Elements of Space Making*. Ahmedabad: Mapin Publishing Pvt Ltd.
5. White, S. (1995). *Building in the Garden: Architecture of Joseph Allen Stein in India and California*. Delhi: Oxford India Paperbacks.

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Building Technology and Materials-VI			
Subject Code		3201546(PP), 3201547(SV)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=3, Studio=4)	7	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 25 25
		In-semester exam	30
		End Semester exam	70
		Total Marks	200
		Total Credits	5

COURSE OBJECTIVES:

- To understand the construction of basement along with its waterproofing, provision for access and ventilation details. To understand the construction of different types of retaining walls and the detailing of the same.
- To understand issues and construction of earthquake resistant frame structures.
- To understand the concept of modular co-ordination and industrialized building construction along with precast technology.
- Introduction to steel structures and detailing of trusses and deck floors.

COURSE OUTLINE:

Unit-1: Characteristics, Properties and types of following materials and their application in buildings.

a) Glass
b) Metal & Metal alloys
c) Plastics and rubbers
d) Adhesives and sealants

h. ***Theory only*** on Moment Resisting Columns – for wind load and gantry load.

Unit 5: Elements of a Factory Building in Steel Structures:

a) Total review of design of medium span factory building in steel.
b) Structural systems, different loads, Design sequence, transfer of load, actual design procedure.
c) Understanding structural drawings.

Unit 6: Advance structural systems for long span and high rise buildings

1. Long span structural systems like, cable structure, arches, shell, dome, vaults, folded plate, geodesic domes, space frames, tensile structure, fabric etc
2. Appropriate use of structural system in Architectural design.
3. Advantages and disadvantages of different systems.
4. High rise buildings structural system like Rigid frame, Framed truss, Framed tube, Tube in tube, Shear wall etc.

References :

1. R.C.C. design – Khurmi, Punmia, Sushilkumar.
2. Design of steel structures- L. S. Negi., Vajrani-Ratwani.
3. Structure in Architecture – Salvadori and Heller.
4. Structural Decisions.- F. Rosenthal
5. I.S. 456, I.S. 800, I.S. 875, I.S. 1893, I.S. 13920

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LANDSCAPE ARCHITECTURE II

SubjectCode		3201549(SS)	
TeachingScheme		ExaminationScheme	
TotalContact Periodsperweek (lectures=1, Studio=3)	04	Sessional(Internal) Sessional(External) Viva (Internal) Viva (External)	25 25 nil nil
		In-semester exam	nil
		End Semester exam	nil
		TotalMarks	50
		Total Credits	2

COURSE OBJECTIVES:

- To study use of Landscape design as a tool to address environmental concerns in Architecture.
- Application of site planning principles in integrated design of open and built spaces.
- To study the work of Master Landscape Architects and their contribution to built environment.

COURSE OUTLINE:

- **Unit 1.** Study of Works of Master Landscape Architects like Humphrey Repton, Andre Le Notre, 'Capability' Lancelot Brown, William Kent, Sir Geoffrey Jellicoe, Fredrick Law Olmstead and Calvert Vaux, Ian Mcharg, Lawrence Halprin,Gertrude Jekyll, Edwin Lutyens, Dan Kiley, Luis Barragan, Bernard Tschumi, Peter Walker, Martha

Schwartz, Robert Burle Marx, Geoffrey and Bevis Bawa, Ram Sharma, Mohammad Shaheer, Ravindra Bhan, Prabhakar Bhagwat, etc. and contemporary landscape projects.

- **Unit 2.**Introduction to site services like lighting and water management to be integrated in the landscape design project II.
- **Unit 3.**Landscape design Project : Essentially related to III Year Architectural Design studio (sem V / VI) which demonstrates application of all studied theory units.

SESSIONAL WORK:

- Assignment based in the form of drawings /report/ presentation on theme based topics from Unit 1wherein the students are encouraged to critically appraise the works of the landscape architects, understand various design approaches, undertake comparative studies, region specific design language etc. Duration 4-6 weeks.
- Portfolio comprising of drawings , views, model (optional) representing built and open space relationship, circulation (vehicular and pedestrian) parking, levels , schematic planting, schematic site services, material palette , nomenclature of outdoor spaces. All the theoretical aspects in Semester V and VI must be applied in this Landscape design Project II. Duration 10-12 weeks.

REFERENCE BOOKS

1. Mcharg, I, *Design with Nature.*John Wiley and co. 1978.
2. Jellicoe, G and Jellicoe, S, *The Lasndscpae of Man*, London: Thames and Hudson, 1991.
3. Simonds, J .O, *Landscape Architecture: The Shaping of Man's Natural Environment*, N Y: McGraw Hill Book Co.Inc. 1961.
4. Lynch, K, *Site Planning*, Cambridge: The MIT Press, 1962.
5. Shaheer, M, Wahi, G and Pal, A (editors), *Landscape Architecture In India, A Reader:* LA, Journal of Landscape Architecture, 2013.
6. Lyall, S, *Designing The New Landscape*: UK:Thames and Hudson, 1998.
7. Dee, C, Form And Fabric In Landscape Architecture: A Visual Introduction, UK: Spon Press, 2001.
8. Eckbo, G, *Urban Landscape Design,* N Y: McGraw hill co. 1961.
9. Laurie, M, *An Introduction to Landscape Architecture*, N Y: American Elsevier Pub. Co. Inc. 1975
10. Rutledge, A J. *A Visual Approach to Park Design*. New York: John Wiley and Sons, 1985.
11. Randhawa, M S, *Flowering Trees*, New Delhi: National Book Trust, 1998.
12. Bose, T K and Choudhary, K, *Tropical Garden Plants in Colour*, Horticulture and Allied Publishers, 1991.
13. Krishen, P. *Trees of Delhi: A Field Guide*, Penguin India, 2006.
14. Mukherjee, P, *Trees of India (WWF Natures Guide)*, Oxford, 2008.
15. Sahni, K C,*The Book of Indian Trees (Bombay Natural History Society)*, Oxford, 1998.
16. Krishna, N and Amrithalingam, M, *Sacred Plants of India*, Penguin Books Limited, 2014.
17. Motloch, J. L, *Introduction to Landscape Design*, US: John Wiley and Sons, 2001.
18. Dines, N and Harris, C, *Timesavers Standards for Landscape Architecture*, McGraw Hill Education, 1998.
19. Reid, G, L, *Landscape Graphics*, Watson-Guptill, 2002.
20. Botkin, D. B and Keller, E. A, *Environmental Science: Earth As a Living Planet*, N Y: John Wiley And Co. 1995.
21. Grosholz, E,*The Poetics of Landscape Architecture,* University of Pennsylvania Press, 2010.

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Fourth year 2015 Pattern

Semester VII

DRAFT SYLLABUS FOR APPROVAL OF FACULTY

DESIGN VII			
Subject Code		4201554 (SV)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week= 12 (lectures=3, Studio=9)	12	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	100 100 25 25
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	250
		Total Credits	8

Course Objective

Subject aims at preparing the students to handle complex architectural issues at this stage addressing various challenges in terms of scale, complexity of functions, social economic context, traffic and vehicular movement and so on. Along with the challenges of physical issues, students are also now expected to address spatial and visual language of their project with reference to the urban context and setting of their site.

Course Outline

- Multifamily Residential Development with Focus on : Mixed Use Development, Development of Communities, Addressing Issues of Social Stratification v/s Inclusiveness, Identification of target Group/ End User's requirement, Relation of Location/ Land values on Defining the Housing Product, Project being part of the City Context, Green Initiatives, Efficient Planning of Services, Minimum Area 100 to 200 depending on Context and Complexity. Designed within parameters as laid out by Local Authority and NBC.
- One Esquee / Charette be undertaken in each of the Terms (One week Duration) exploring design solution for a project / component , ideas for which would help the Main Design project.

Submissions

The design has to be communicated through architectural graphics, two and three-dimensional sketches, models and narratives.

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ADVANCED BUILDING TECHNOLOGY AND SERVICES I			
Subject Code		4201555 (SV)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week= 07 (lectures=3, Studio=4)	07	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	75 75 25 25
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	200
		Total Credits	5

COURSE OBJECTIVES:

- To introduce advanced structural systems, materials and services required in buildings with complex and special requirements and enable the students to integrate the same in design.

COURSE OUTLINE:

Unit 1 .Multi-basements. Design and construction of multi-basements giving constructional details required for natural Lighting, ventilation and surface water disposal. Study of various methods of access to parking areas other than ramps. Drawings to include application of all required services. [Minimum four A1 drawings]

- Unit 2. Industrial Buildings. : Types of roofing systems, PEB systems, Proprietary systems, Industrial flooring.
  Assignments. Drawings showing structural system, construction details and services in plan, section and elevation [minimum two A1 drawings]

- Unit 3. Swimming pools.
  Design and construction of swimming pools (Olympic size, semi Olympic, leisure pools) and study of situations such as -- at ground level , podium level and upper / roof level with reference to all constructional and services details. [Minimum two A1 drawings]

- Unit 4 Study of long span structures [indoor stadia, railway / metro stations, shopping malls, sky walks etc] in RCC and Steel to understand structural behavior. Introduction of lighting and ventilation of spaces in such large buildings.
  Assignment would comprise of Case study report and construction details in sketch form.

SESSIONAL WORK:

- Drawings / sketches / notes to be as mentioned in the course outline above. Computerized drawings may be allowed only when individual design / detailing is undertaken.

REFERENCE BOOKS

PEB manufacturer's details
Advanced Building Construction By MACKEY
Stadia by John Geraint

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PROFESSIONAL PRACTICE I			
Subject Code :		4201556(PP)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week = 3 (Theory Lectures – 1 + studio -2)	03	Sessional (Internal) Sessional (External)	Nil Nil
		In-semester exam	30
		End Semester exam	70
		Total Marks	100
		Total Credits	2

COURSE OBJECTIVES:

- To acquaint the Student with the Role and Stature of an Architect in Society, and understand the duties, responsibilities, liabilities and ethics as a professional.

- To acquaint the Student with the Scope and Avenues of professional Architectural services, and the demands and Mode of professional practice, and to prepare the Student for the professional field.
- To familiarize and prepare the Student with adequate knowledge of an Architect's office administration, documentation and procedures of office and site management to enhance his comprehension and utility during his professional training in the field in Semester IX.

COURSE OUTLINE :

Unit 1 Introduction to the nature, scope and avenues of service and professional practice as an Architect. Define the Role of an Architect as a technical professional - who is not a Trader or a Businessman. Illustrate the changing nature of the Architects profession- Local & Global competition in the field.

UNIT 2 The Architects Act 1972 - The Council of Architecture, its composition, legal status and mandate for to Registration of Architects and for monitoring the Academics and Profession of Architecture, Rules and Regulations of the Council regarding Professional Liabilities & Code of Conduct.

Unit 3 Avenues of Professional service and mode and nature of professional Practice - Types of Organisations - Scope of comprehensive Services, Scale of Fees, and Office Management, Project management, Site supervision, Documentation, Taxation, Banking and Insurance.

Unit 4 Architectural Competitions - Pros and Cons - with Rules and Regulations of the Council.

Unit 5 Introduction to IIA, IIID, IUDI, ITPI, ISOLA and such professional organisations and the need for Architects to be aware, sensitive and active in Social and Civic issues in Urban context.

REFERENCE BOOKS :

1) Handbook of Professional Documents - Council of Architecture publication
2) The Architects Act, 1972 - Govt. of India publication
3) Professional Practice - By Roshan .H. Namavati
4) Professional Practice in India - By Madhav G. Deobhakta
5) Architectural Practice and Procedure - By Vasant .S. Apte

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URBAN STUDIES-I			
Subject Code		4201557 (SS)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=1, Studio=2)	03	Sessional (Internal)	25
		Sessional (External) Viva	25 nil
		(Internal)	nil
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	50
		Total Credits	02

COURSE OBJECTIVES:

- To enable students to understand the urban context of an Architectural Project beyond the site and understand the implications of various factors (such as traffic-transportation, socio economics, urban landscape, spatial and visual aspects etc) influencing the development of an urban area.
- To introduce the students to urban planning and design theories and concepts and enable them to undertake planning and design of large scale land development.

COURSE OUTLINE:

- Introduction to urban studies and relevance of its learning in Architecture profession. Principles and theories of Urban Planning and Urban Design.
- Various aspects of urban land.
- Urban residential developments such as neighborhood planning, high-rise housing, slum rehabilitation, public housing, town planning schemes etc
- Affordable housing: introduction and concepts.

SESSIONAL WORK:

- **Handwritten journal** based upon the theory syllabus as above.
- **Assignments:**
  1. Subdivision of land for residential development (approx area 4Ha) –Individual submission (20 marks)
  2. Study of housing typologies as mentioned in course outline- Case study in a group of maximum 5 students (20 Marks)
  3. One Tutorial based upon course outline (10 marks)

REFERENCE BOOKS

1. Gallion, Arthur. ***The Urban Pattern.*** New Delhi: CBS Publishers and Disrtibuters, 2003
2. Bacon, Edmund. ***Design of Cities*** London: Thames and Hudson, 1974
3. Paddison, Ronan. ***Handbook of Urban Studies.***London: sage Publications, 2001
4. Correa, Charles. ***Housing and Urbanisation.*** London: Thames and Hudson, 2000.
5. Mohanty , Swati. ***Slum in India.*** New Delhi:APH Publishing Corp.,2005.
6. Jagdale, Rohit. ***Slum Rehabilitation Schems in Mumbai.*** University of Texas 2014.

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RESEARCH IN ARCHITECTURE I			
Subject Code		4201558 (SS)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (lectures=1, Studio=2)	3	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 - -
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	50
		Total Credits	2

COURSE OBJECTIVES:

- To introduce students to Research in Architecture and its value in design
- To enable the students to prepare a research proposal.

COURSE OUTLINE:

- Unit I -- Introduction to the meaning and need of research in architecture. Introduction to various concepts such as types of variables, measurement of variables, sample selection, ethics in research.
- Unit II – Process of research – Methodology
- Unit III – Literature study

Specification Writing I			
Subject Code		4201560 (PP)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (Lectures = 1 Studio = 2)	3	Sessional (Internal)	nil
		Sessional (External)	nil
		Viva (Internal)	nil
		Viva (External)	nil
		In-Semester exam	30
		End-Semester exam	70
		Total Marks	100
		Total Credits	2

COURSE OBJECTIVES:

- To acquaint students with methodology of writing specifications with reference to building trades, materials, workmanship & performance of different items of work.
- To know importance of specifications in contract document for any construction project.

COURSE OUTLINE:

- Techniques, Importance & methods of writing different types of specifications of different items of works in construction.
- Technical and functional role of specifications in any construction project.

Unit I: Specifications

1.4. Definition, need & importance of Specification writing
1.5. Relation with working drawing, bill of quantities, schedule of rates
1.6. Specification as a integral part of contract document

Unit II: Types of Specifications

2.1. Basic types like open, closed, restricted etc
2.2. Use of manufacturers guide
2.3. Combination of above types

Unit III: Specification writing (Workmanship)

3.1. Item-wise detailed specifications including methods
3.2. Forms of writing descriptive notes on material and workmanship based on working drawing

Unit IV: Specifications for construction works

4.2 Demolition work of existing buildings
4.2Formwork

REFERENCE BOOKS

1. Indian Standard specifications
2. C.P.W.D. Specifications and schedule of rates
3. Specification Writing for Architects & Engineers, By Donald A. Watson
4. Specification Writing for Architects & Surveyors, By Arthur J. Wills
5. Estimating, Costing, Specification & Valuation, By M. Chakraborty

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Fourth year 2015 Pattern

Semester VIII

DRAFT SYLLABUS FOR APPROVAL OF FACULTY

DESIGN VIII			
Subject Code		4201562(SV)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week= 12 (lectures=3, Studio=9)		Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	100 100 25 25
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	250
		Total Credits	8

Course Objective

Subject aims at preparing the students to handle complex architectural issues at this stage addressing various challenges in terms of scale, complexity of functions, social economic context, traffic and vehicular movement and so on. Along with the challenges of physical issues, students are also now expected to address spatial and visual language of their project with reference to the urban context and setting of their site.

Course Outline [Project type 1 – one of the two options & Project type 2]

1. Study of Urban Areas in terms of Urban level issues like Mobility, movement network, builtform, disposition, character, identity, activities, open space, networks, walkability, inclusiveness, etc.

Community participation initiatives and analysis.

Identify issues related to above aspects at Neighbourhood level and offer design solutions for improving the status of the neighbourhood with reference to the above aspects. Setting up of Guidelines to achieve the master plan objectives and broad implementation strategy to achieve sustainable neighbourhoods.

The project shall include a Study area and Master Plan area of 2- 3 Ha. with detailed Architectural Resolution of a component/s admeasuring not less than 10000 to 20000 sqm Area of Functional space depending on Context and Complexity.

The Architectural project should evolve of the study of the Area and be an outcome of issue formulation, Development Plan proposals for the area if any and a subset of the overall Master Plan for the Area.

OR

1. Multi Functional Complex of Buildings or Speciality Building in an Urban Context with substantial Complexity addressing Issues of Character, Identity, Builtform, Contextuality, Advanced Services, Green Initiatives , landscape integration, traffic management with impact on immediate surroundings, structural resolution in detail. Building Quantum not less than 10000 to 20000 sqm Area of Functional space depending on Context and Complexity and appropriate plot Area. (eg. Healthcare facility, Educational Institution, 5 Star Hotel, Convention Centre, Multimodal Transport Hub, Shopping Mall and Multiplex, redevelopment project etc.).

Project should explore the Impact on the Surrounds and from the Surrounds with reference to the Urban Insert being proposed.

2. One Esquee / Charette be undertaken in each of the Terms (One week Duration) exploring design solution for a project / component , ideas for which would help the Main Design project.

Submissions

The design has to be communicated through architectural graphics, two and three-dimensional sketches, models and narratives.

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ADVANCED BUILDING TECHNOLOGY AND SERVICES II			
Subject Code		4201563 (SV)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week= 07 (lectures=3, Studio=4)	7	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	75 75 25 25
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	200
		Total Credits	5

COURSE OBJECTIVES:

- To introduce advanced structural systems, materials and services required in buildings with complex and special requirements and enable the students to integrate the same in design.

COURSE OUTLINE:

- Unit 1. .Auditoriums - Design and construction of Auditorium of min capacity 500 with provision of a balcony and application of all required services.
  All architectural drawings, framing plans and sections, showing all services and constructional detail for balcony [minimum four A1 drawings]

- Unit 2. Construction details of architectural features in design projects.
  Assignment – Complete details with reference to materials used and details of construction. Minimum five working details to an appropriate scale. [Minimum 3 A1 size drawing].

- Unit 3. Introduction to high rise buildings.
  Behavior of high rise structures under different loading conditions. Understanding of structural systems for high rise structures. Assignment; Notes and sketches.

- Unit 4 Curtain walls-- Framing systems and construction details for a curtain wall.
  Assignment -- Students shall study cases of curtain wall and prepare working details for the same. [minimum one A1 size drawing].

SESSIONAL WORK:

- Drawings / sketches / notes to be as mentioned in the course outline above. Computerized drawings may be allowed only when individual design / detailing is undertaken.

REFERENCE BOOKS

Advance building construction by MACKEY
High Rise Buildings by JASWANT MEHTA
Theatres and Auditoriums byHarold Burris- Meyer &Edward Cole.
Architects Working Details

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PROFESSIONAL PRACTICE II			
Subject Code :		4201564 (PP)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week = 3 [Lecture 1, Studio 2]	3	Sessional (Internal) Sessional (External)	Nil Nil
		In-semester exam	30
		End Semester exam	70
		Total Marks	100
		Total Credits	2

COURSE OBJECTIVES:

- To acquaint the Student with the Role and Stature of an Architect in Society, and understand the duties, responsibilities, liabilities and ethics as a professional.
- To acquaint the Student with the Scope and Avenues of professional Architectural services and the demands and Mode of professional practice, and to prepare the Student for the professional field.
- To familiarize and prepare the Student with adequate knowledge of an Architect's office administration, documentation and procedures of office and site management to enhance his comprehension and utility during his professional training in the field in Semester IX.

COURSE OUTLINE:

Unit 1 Introduction to Construction Management - Types and Systems of Tendering - Open and Invited Tenders - Pre-Qualification and Empanelment procedures - Selection of Contractors.

Unit 2 Introduction to Contracts - Articles of Agreement and Conditions of Contract (IIA document) Contents of a Tender - Terms of Reference - Specifications - Bill of Quantities - Billing, Measurement of work and Payments - Advances and recovery - Bonus and Penalties, etc ..

Unit 3 Introduction to National Building Code - ISI Codes and Standards, Limits and Tolerances.

Unit 4 Role of Architects in Construction / Site management - Supervision and monitoring of Speed, Quality and Economy - Status on project sites - Meetings, Minutes, Instructions & Records.

Unit 5 General Introduction to the Role and Legal duties of Architects in Arbitration and Valuation.

SESSIONAL WORK : Preparation of a JOURNAL with NOTES based upon the syllabus content. Journal to be submitted at the end of Term-II for Internal and External Marking.

REFERENCE BOOKS :

1) Handbook of Professional Documents - Council of Architecture publication
2) The Architects Act, 1972 - Govt. of India publication

3) Professional Practice - By Roshan H. Namavati
4) Professional Practice in India - By Madhav G. Deobhakta
5) Architectural Practice and Procedure - By Vasant .S. Apte

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Urban Studies-II			
SubjectCode		4201565 (SS)	
TeachingScheme		ExaminationScheme	
TotalContact Periodsperweek (lectures=1, Studio=2)	03	Sessional(Internal) Sessional(External) Viva (Internal) Viva (External)	25 25 nil nil
		In-semester exam	nil
		End Semester exam	nil
		TotalMarks	50
		Total Credits	02

COURSE OBJECTIVES:

- To introduce the students to the process of planning and urban development and associated legislation.
- To introduce the students to urban economics.

COURSE OUTLINE:

- Study of planning process in detail (Survey, analysis, proposals and development)
- Conservation and related Urban Design controls.
- Planning and Urban Design legislation (introduction and relevance)
- Unified Building bye laws and Development Control rules of local authorities.
- Urban economics: introduction and concepts (demand and supply, housing finance, Government schemes and various bodies etc)

SESSIONAL WORK:

- **Handwritten journal** based upon the theory syllabus as above.
- **Assignments**:
  1. Reading of Urban fabric: Study of existing town and town planning proposals for municipal council level town-(group work) (20 marks)
  2. Identification of urban issues related to various aspects such as environment, society, traffic and transportation, hills and hill slopes, riverfront development, urban heritage conservation through primary surveys(group work in a group of 5 students) (20 marks)
  3. One Tutorial based upon course outline (10 marks)

REFERENCE BOOKS

Urban Pattern: Arthur Gallion
City in History: Lewis Mumford
Spreriegen, Paul. Urban Design: ***The Architecture of Town and Cities.*** Malabar,FL-USAKrieger Publishing Co., 1967
Lynch, Kevin. ***The Image of The City*** London: The MIT Press, 1960
Book of Development Control Regulations by Local Municipal Corporation (latest edition available)
Book of AITP Exam study material: 'Planning Law and Legislation' by ITPI New Delhi
Guide to Planning Surveys including Landuse Classification: TCPO, Govt of India: 2004

Unit VI Working out quantities for Industrial structure of approximately 200-300 sqm with steel Truss and sheet roofing and preparing measurement sheet and abstract for all items of work.

REFERENCE BOOKS

- *B.I.S 1200- Part-I 1992*. n.d.
- Prof. B.N.Dutta, *Estimating and Costing in Civil Engineering.*
- B.S.Patil. *Civil Engineering Contarcts and Estimates.*
- Dr. Roshan Namavati. *Profe ssional Practice.*
- Rangawala. *Estimating Costing and Valuation.*

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Specification Writing II			
Subject Code		4201568 (PP)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week (Lectures = 1 Studio = 2)	3	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	nil nil nil nil
		In-Semester exam	30
		End-Semester exam	70
		Total Marks	100
		Total Credits	2

COURSE OBJECTIVES:

- To acquaint students with methodology of writing specifications with reference to service installations of different items of work in construction.
- To know importance of specifications in contract document for any construction project.

COURSE OUTLINE:

- Techniques, Importance & methods of writing different types of specifications of different items of works in construction.
- Technical and functional role of specifications in any construction project.

Unit I: Detailed Specifications

1.3. Checklist preparation

Unit II: Specification for Building Services

2.1. Water Supply & Drainage
2.2. Acoustics
2.3. Electrification
2.4. HVAC installation

Unit III: Building Trades

3.1. Different Building trades scope & contents

Unit IV: Broad outline specification for service installations

4.4. Communication systems- elevators, escalators
4.5. Accessibility- arrangements for disabled persons
4.6. Water proofing- cement, bitumen, polymer based
4.7. External development- roads, pavements, kerbs, lighting

REFERENCE BOOKS

- Indian Standard specifications
- C.P.W.D. Specifications and schedule of rates
- Specification Writing for Architects & Engineers, By Donald A. Watson
- Specification Writing for Architects & Surveyors, By Arthur J. Wills
- Estimating, Costing, Specification & Valuation, By M. Chakraborty

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ELECTIVE III – ALLIED ELECTIVE			
Subject Code		4201569 (SS)	
Teaching Scheme		Examination Scheme	
Total Contact Periods per week= 2 (lectures=1, Studio=1)	2	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	25 25 NIL NIL
		In-semester exam	nil
		End Semester exam	nil
		Total Marks	50
		Total Credits	1

COURSE OBJECTIVES:

The subject of Electives has been introduced in syllabus with specific intention of study of a particular subject of student's liking in greater detail but in the larger context of overall scope of Architecture syllabus at undergraduate level. This will give students an opportunity to develop their skills in a subject they may opt,to make their career in future.

The allied elective gives opportunity to the students to explore links of design as a faculty with allied fields such as social sciences, visual art, performing arts, psychology, etc.

COURSE OUTLINE:

Individual College may offer topics depending upon the availability of experts and resource material. The colleges will have the opportunity to focus on a particular group of topics according to the overall philosophy and mission statement of the College. The probable elective topics are – [the list

Fifth year 2015 Pattern

Semester IX

DRAFT SYLLABUS FOR APPROVAL OF FACULTY

Practical Training		
Subject Code	5201570 (SV)	
Teaching Scheme	**Examination Scheme**	
Student should work for Total 120 working days in organization where architecture or its allied disciplines are practiced under supervision of a professional who is registered with COA India.	Sessional (Internal) Sessional (External) Viva (Internal) Viva (External)	75 75 25 25
	In-semester exam	NIL
	End Semester exam	NIL
	Total Marks	200
	Total Credits	8

Objectives:

- To undertake practical training under the guidance of experts / professionals.
- To Learn about architect's office management and learn about the process of design, execution and management of a project.

Course outline:

- Students should work in organization where architecture or its allied disciplines are carried under professional who is registered architect with COA
- In case a student undergoes Training at a firm outside India, the professional should be registered with the professional body governing practice in that country in addition to the registration with COA India.
- Total duration of Professional Training will be 120 working days in IX sem

Submissions :

- Prepare a separate report along with formal log book & work diary.
- Student should maintain week wise work record in a diary to summarize the work done in the office, site visits, meetings with clients, agencies, interaction with principal architect. This diary should be authenticated by the architect every week.
- Professionals should issue a certificate of performance to the student with respect to the work quality, overall approach, attitude towards office work.
- Students should produce report, log book, work diary & some drawings with permission from the employer [to indicate the kind of work s/he has carried out] at the time of sessional -viva voce examination.

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Fifth year 2015 Pattern

Semester X

DRAFT SYLLABUS FOR APPROVAL OF FACULTY

Elective IV			
SubjectCode		5201572 (SS)	
TeachingScheme		ExaminationScheme	
TotalContact Periodsperweek (lectures=1, Studio=2)	3	Sessional(Internal) Sessional(External) Viva (Internal) Viva (External)	25 25 NIL NIL
		In-semester exam	nil
		End Semester exam	nil
		TotalMarks	50
		Total Credits	2

COURSE OBJECTIVES:

The subject of Electives has been introduced in syllabus with specific intention of study of a particular subject of student's liking in greater detail but in the larger context of overall scope of Architecture syllabus at undergraduate level. This will give students an opportunity to develop their skills in a subject they may opt,to make their career in future.

Architecture professionals will have to deal with more and more complex buildings as well as organizational structures to realize a project .Architects need to be introduced to "Management Concepts" if they are to manage projects right from design stage through the documentation and construction stage.Acknowledging the fact that the Architectural Practice is a team effort and understanding the necessity of management in this field the following elective topics have been suggested.

Note:This elective will not focus on design and technology aspects of the topics offered.

COURSE OUTLINE:

Individual College may offer topics depending upon the availability of experts and resource material. The colleges will have the opportunity to focus on a particular group of topics according to the overall philosophy and mission statement of the College. The probable management elective topics are as follows:

- Project Management
- Construction Management
- Environment and Energy management
- Architectural Design Management

SESSIONAL WORK:

The faculty is expected to set out the broad contour and sub aspects (including basic principles, case studies, application in building projects etc.) of the particular elective and conduct input and demonstration interactions and define the nature of the sessional work to be done by the students.

The students are expected to present the work done in an**A4 report format of 20 pages**, to include summary of interactions and sessional work prescribed by the faculty with a signed certificate from the concerned

Teacher / Expert stating that the study was carried out under his /her guidance and countersigned by the Principal / Academic coordinator.

Guidelines for content for the electives

Construction Management

Human Resource Management in Construction
Contracts and Claims Management
Construction Materials, Stores and Inventory Control and Technology Management
Construction Equipment Management
Construction Quality and Safety Management
Construction Site Administration and Control
Introduction to Computer applications for construction management

Project Management

Soft Skills in Project Management
Project Risk Management
Project Cost Estimation and Cost Control
Contracts and Claims Management
Project Procurement and Materials Management
Project Quality and Safety Management
Introduction to Computer Application in Contract Management

Environment and Energy Management

Environment and Energy Policies and Management in Indian Context
Environment Technology Management-Water and Waste Management Technologies
Energy Management in Buildings (Demand and Supply Management)
Building Management Systems

Architectural Design Management

Design Management
Drawing and Documentation Management
Computer Applications for Design Management

Architectural Design Project			
SubjectCode		5201571 (SV)	
TeachingScheme		ExaminationScheme	
TotalContact Periodsperweek=20 (lectures=4, Studio=16)	20	Sessional(Internal) Sessional(External) Viva (Internal) Viva (External)	175 175 50 50
		In-semester exam	nil
		End Semester exam	nil
		TotalMarks	450
		Total Credits	12

पुणे विद्यापीठ

दूरध्वनी क्रमांक :
०२०-२५६९१२३३
२५६०१२५८
२५६०१२५९

शैक्षणिक विभाग
गणेशखिंड, पुणे-४११००७.
टेलिग्राफ : 'युनिपुणे'
फॅक्स : ०२०-२५६९८००७
वेबसाइट : www.unipune.ernet.in
इ-मेल : dyracademic@unipune.ernet.in

संदर्भ क्र. : सीओए/आर्क/५०७६

दिनांक : 19/6/2008

परिपत्रक क्र. २०६/२००८

विषय :— अभियांत्रिकी विद्याशाखेअंतर्गत बॅचलर ऑफ आर्किटेक्चर व बॅचलर ऑफ आर्किटेक्चर (इंटिरिअर डिझाईन) या पदवीच्या प्रथम वर्षाच्या सुधारित अभ्यासक्रमाबाबत व पाच वर्षाच्या आराखडयाबाबत.

विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार आपणांस कळविण्यात येते की, शैक्षणिक वर्ष २००८—०९ पासून अभियांत्रिकी विद्याशाखेअंतर्गत बॅचलर ऑफ आर्किटेक्चर व बॅचलर ऑफ आर्किटेक्चर (इंटिरिअर डिझाईन) या पदवीच्या प्रथम वर्षाच्या सुधारित अभ्यासक्रमास व पाच वर्षाच्या आराखडयास मान्यता देण्यात येत आहे.

सदर अभ्यासक्रम www.unipune.ernet.in या पुणे विद्यापीठाच्या वेबसाईटवर Student's Helpline – Syllbi या शीर्षकाखाली उपलब्ध आहे. सदर अभ्यासक्रम डाऊनलोड करणेबाबत काही अडचण आल्यास CD उपलब्ध केल्या जातील.

पुणे विद्यापीठाचे सर्व संलग्न वास्तुशास्त्र महाविद्यालयांचे प्राचार्य, यांना विनंती की, सदर परिपत्रकाचा आशय सर्व संबंधितांच्या, प्राध्यापक व विद्यार्थी यांच्या निदर्शनास आणून द्यावा.

संचालकांकरिता
(म.वि.वि.मं.)

प्रत माहितीसाठी व पुढील योग्य त्या कार्यवाहीसाठी :

१) मा. अधिष्ठाता, अभियांत्रिकी विद्याशाखा, पुणे विद्यापीठ, पुणे—४११ ००७.
२) मा. प्राचार्य, सर्व संलग्नीत अभियांत्रिकी महाविद्यालये.
३) मा. अभ्यासमंडळाचे सदस्य, पुणे विद्यापीठ, पुणे—४११ ००७.
४) मा. परीक्षा नियंत्रक, परीक्षा विभाग, पुणे विद्यापीठ, पुणे—४११ ००७.
५) मा. संचालक, म.वि.वि.मं., पुणे विद्यापीठ, पुणे—४११ ००७.
६) मा. संचालक, स्पर्धा परीक्षा केंद्र, पुणे विद्यापीठ, पुणे—४११ ००७.
७) मा. संचालक, आंतरराष्ट्रीय विद्यार्थी केंद्र, पुणे विद्यापीठ, पुणे—४११ ००७.
८) मा. उपकुलसचिव, परीक्षा (१ व २), पुणे विद्यापीठ, पुणे—४११ ००७.
९) मा. सहा.कुलसचिव, शैक्षणिक प्रवेश विभाग, पुणे विद्यापीठ, पुणे—४११ ००७.
१०) मा. सहा. कुलसचिव, नियोजन व विकास विभाग, पुणे विद्यापीठ,पुणे—४११ ००७.
११) मा. सहा. कुलसचिव, शैक्षणिक पात्रता विभाग, पुणे विद्यापीठ, पुणे—४११ ००७.
१२) मा. सहा. कुलसचिव, परीक्षा समन्वय कक्ष, पुणे विद्यापीठ, पुणे—४११ ००७.
१३) मा. सहा. कुलसचिव, परीक्षा (एस ॲण्ड टी) विभाग, पुणे विद्यापीठ, पुणे—७.
१४) मा. सहा. कुलसचिव, गोपनिय कक्ष, पुणे विद्यापीठ, पुणे—४११ ००७.
१५) मा. सहा. कुलसचिव, सभा व दप्तर विभाग, पुणे विद्यापीठ, पुणे—४११ ००७.
१६) मा. कायदा अधिकारी, कायदा विभाग, पुणे विद्यापीठ, पुणे—४११ ००७.
१७) मा. जनसंपर्क अधिकारी, पुणे विद्यापीठ, पुणे—४११ ००७.
१८) मा. कक्षाधिकारी, बहिस्थ: विभाग, पुणे विद्यापीठ, पुणे—४११ ००७.
१९) मा. कक्षाधिकारी, संलग्नता विभाग, पुणे विद्यापीठ, पुणे—४११ ००७.
२०) मा. कक्षाधिकारी, शिक्षक मान्यता कक्ष, पुणे विद्यापीठ, पुणे—४११ ००७.
२१) मा. प्रमुख विद्यापीठ उप केंद्र : अहमदनगर, नाशिक.

विद्या परिषद ठराव क्र. — वि.प. ब ४० पीए/४०/०८ दि. ८/९ मे,२००८

UNIVERSITY OF PUNE

SYLLABUS

FOR

Five years Degree Course
of
BACHELOR OF ARCHITECTURE
And
BACHELOR OF ARCHITECTURE
(INTERIOR DESIGN)

And

Three Years Degree Course
of
BACHELOR OF BUILDING SCIENCES
(Stage I of B.Arch.)

(to be implemented from 2008-09)

FACULTY OF ENGINEERING

BOARD OF STUDIES IN ARCHITECTURE

COURSE STRUCTURE

FIVE YEARS DEGREE COURSE
BACHELOR OF ARCHITECTURE & BACHELOR OF ARCHITECTURE (INTERIOR DESIGN)
And
THREE YEARS DEGREE COURSE - BACHELOR OF BUILDING SCIENCES (Stage I of B.Arch.)

A total of 40 periods per week per term shall be conducted for the course. In addition to the 36 periods specified below, 4 periods per week are given to the institution to orient the course as per their own philosophy. Intensive study as per the institution's philosophy may also be done in addition to the detail syllabus in each subject.

STAGE I

Legend : SV = Sessional & Viva-voce, SS = Sessional.

FIRST YEAR B.ARCH, FIRST YEAR B.ARCH (I.D.), FIRST YEAR B.B.S.

Sr. No.	Subject Code	Name of Subject	Head	Teaching Scheme			Examination Scheme		
				Lecture Periods	Studio Periods	Total Periods	Term I Marks	Term II Marks	Total Marks
1	113421	Basic Design I	SV	1	5	6	150	150	300
2	113422	Architectural Design I	SS	1	5	6	150	150	300
3	113423	Arch. Drg. & Graphics I	SS	1	5	6	100	100	200
4	113424	Bldg. Tech. & Materials I	SV	2	4	6	150	150	300
5	113425	Bldg. Tech. & Materials I	Theory				--	100	100
6	113426	Theory of Structures I	SS	2	2	4	50	50	100
7	113427	Theory of Structures I	Theory				--	100	100
8	113428	H.A. & H.S. I	SS	3	--	3	50	50	100
9	113429	H.A. & H.S. I	Theory				--	100	100
10	113430	Design Fundamentals of Arch I	SS	2	--	2	100	100	200
11	113431	Design Fundamentals of Arch I	Theory				--	100	100
12	113432	Workshop and Model Making	SS	--	3	3	50	50	100
		T O T A L		**12**	**24**	**36**	**800**	**1200**	**2000**

SECOND YEAR B.ARCH

Sr. No.	Name of Subject	Teaching Scheme			Examination Scheme		
		Lecture Periods	Studio Periods	Total Periods	Paper Marks	Sessional Marks	Total Marks
1	Basic Design II	1	4	5	--	300	300
2	Architectural Design II	2	5	7	--	300	300
3	Arch. Drg. & Graphics II	1	4	5	--	200	200
4	Bldg. Tech. & Materials II	2	4	6	100	300	400
5	Theory of Structures II	2	2	4	100	100	200
6	H.A. & H.S. II	2	1	3	100	100	200
7	Building Services I	1	1	2	100	200	300
8	Building Sciences	1	3	4	--	100	100
	TOTAL	12	24	36	400	1200	2000

THIRD YEAR B.ARCH. & B.ARCH. INTERIOR DESIGN

Sr. No.	Subject Code	Name of Subject	Head	Teaching Scheme			Examination Scheme		
				Lecture Periods	Studio Periods	Total Periods	Term I Marks	Term II Marks	Total Marks
1	313421	Architectural Design III	SV	4	6	10	250	250	500
2	313422	Architectural Design III	Theory				--	100	100
3	313423	Bldg. Tech. & Materials III	SV	2	5	7	150	150	300
4	313424	Bldg. Tech. & Materials III	Theory				--	100	100
5	313425	Theory of Structures III	SS	2	1	3	50	50	100
6	313426	Theory of Structures III	Theory				--	100	100
7	313427	Building Services II	SS	2	2	4	100	100	200
8	313428	Building Services II	Theory				--	100	100
9	313429	Landscape Arch. and Env. Sciences	SS	1	2	3	50	50	100
10	313430	Seminar on Contemporary Architecture	SS	2	--	2	50	50	100
11	313431	Working Drawing	SS	2	3	5	100	100	200
12	313432	Technical Communication	SS	1	1	2	50	50	100
		TOTAL		16	20	36	800	1200	2000

BOARD OF STUDIES IN ARCHITECTURE

FOURTH YEAR B.ARCH.

Sr. No.	Subject Code	Name of Subject	Head	Teaching Scheme			Examination Scheme		
				Lecture Periods	Studio Periods	Total Periods	Term I Marks	Term II Marks	Total Marks
1	413421	Architectural Design IV	SV	2	10	12	300	300	600
2	413422	Adv. Bldg. Tech. & Services	Theory	2	5	7	150	150	300
3	413423	Design & Tech. Elective	SS	1	1	2	50	50	100
4	413424	Quantity Surveying and Est.	SS	1	3	4	50	50	100
5	413425	Quantity Surveying and Est.	Theory				--	100	100
6	413426	Specification Writing	SS	2	--	2	50	50	100
7	413427	Specification Writing	Theory				--	100	100
8	413428	Town Planning	SS	1	3	4	50	50	100
9	413429	Town Planning	Theory				--	100	100
10	413430	Professional Practice	SS	2	--	2	50	50	100
11	413431	Professional Practice	Theory				--	100	100
12	413432	Dissertation & Architectural ProjectPart I	SS	1	2	3	100	100	200
		TOTAL		12	24	36	800	1200	2000

FIFTH YEAR B.ARCH.

Sr. No.	Subject Code	Name of Subject	Head	Teaching Scheme			Examination Scheme		
				Lecture Periods	Studio Periods	Total Periods	Term I Marks	Term II Marks	Total Marks
1	513421	Practical Training	SV	--	--	--	100	--	100
2	513422	Architectural Project Part II	SV	2	10	12	--	400	400
3	513423	Management Elective	SS	1	1	2	--	50	50
4	513424	Allied Elective	SS	1	1	2	--	50	50
		TOTAL		4	12	16	100	500	600

SUBJECT CODE : 113421		BASIC DESIGN I - SV	
TEACHING SCHEME		EXAMINATION SCHEME	
Lecture Periods	1	Paper	Nil
Studio Periods	5	Sessional + Viva-voce Term I	150
Total Contact Period (Per Week)	6	Sessional + Viva-voce Term II	150
		Total Marks	300

Term I :

COURSE OBJECTIVES :

To help the students grasp the fundamentals of design as a basic creative activity.
The help the students learn about the basic elements of design such as the point, line, planes, volumes and masses, colour, texture etc. though exercises aimed at experimentation.

COURSE OUTLINE :

The course should contain exercises that will cover the following topics:

1. Study of lines and forms : Lines (Their Visual Qualities),Composition of two Dimensional Forms, Forms in Nature (Animate and Inanimate).
2. Material and Texture, Colour, Light.
3. Anthropometry.
4. Study of spaces: Positive and Negative Spaces, Activation of spaces through Stabiles / Mobiles.
5. Design of an object in everyday use.

SESSIONAL WORK :

Sufficient number of projects to cover the topics mentioned above should be worked in class. Stress should be given on three-dimensional study and communicating the design / study through effective two and three-dimensional sketches and models, rather than words.

REFERENCE BOOKS

Ching Francis D. K.	Architecture : Form Space & Order
Pramar V. S.	Fundamentals in Architecture
Walter Groups	Total Architecture

Term II :

COURSE OBJECTIVES :

To help the students grasp the fundamentals of Architectural aesthetics.
To help the students learn about the basic elements of visual aesthetics through exercises aimed at experimentation.
The final exercise will culminate in application of all the knowledge and skill gained during the term.

COURSE OUTLINE :

The course should contain exercises that will cover the following topics:

1. Understanding Architectural Aesthetics.
2. Elements of Visual Aesthetics.
3. Attributes of Form and Space.
4. Platonic Forms. (Derivatives forms and transformation).
5. Scale, Proportion, Contrast.
6. Alignment, Repetition, Pattern, Rhythm
7. Principles of Organization of Form & Space
8. Study of building by application of principles of Aesthetic Appraisal.

SESSIONAL WORK
Sufficient number of projects to cover the topics mentioned above should be worked upon in class. Stress should be given on three-dimensional study and communicating the design / study through effective two and three-dimensional sketches and models, rather than words.

REFERENCE BOOKS

Ching Francis D. K.	Architecture : Form Space & Order
Pramar V. S.	Fundamentals in Architecture
Walter Groups	Total Architecture

SUBJECT CODE : 113422		ARCHITECTURAL DESIGN I - SS	
TEACHING SCHEME		**EXAMINATION SCHEME**	
Lecture Periods	1	Paper	nil
Studio Periods	5	Sessional Term I	150
Total Contact Period (Per Week)	6	Sessional Term II	150
		Viva-voce	nil
		Total Marks	300

Term I :

COURSE OBJECTIVES :
Introduction to the design process as a synthesis of a variety of factors, analyzed and studied.
Develop a perception of space and a sense of visualization with the help of tools like sketches, drawings, models, computer animation etc.

COURSE OUTLINE :

- Analyzing single activity, single space structures its context of form, construction, anthropometrical data, space layout, relationship with surrounding environment etc.
- Analyzing relationship of more than one activity in a building of simple nature and understand the same in context to form, construction, anthropometrical data, space ad furniture layout etc.
- Designing single activity, single spaces e.g. gate cabins, entrance gates, bus shelters, monuments, kiosks, children play areas etc.
- Designing progressively complex spaces and buildings eg. Snack bars, exhibition stalls, weekend cottages, bandstand etc.

SESSIONAL WORK :
Sufficient number of projects to cover the topic.
Stress should be given on three-dimensional study and communicating the design / study through effective two and three-dimensional drawings / sketches and models, rather than words.

REFERENCE MATERIAL

- Elements of Architecture – Meiss Pieree Von
- A pattern Language by Alexander Christopher
- Structure in Architecture – Heller Robert and Salvadori Mario
- Total Architecture Walter Gropius
- Structure in Nature – Strategy for Design – Peter Pearce
- Patterns in Nature – Peter Streens
- Visual Thinking – Am heim Rudolf
- Architecture : Form, Space and order – Francis D. K. Ching
- A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fairweather
- Architectural Graphic standards editor – Boaz Joseph
- Planning – the Architect's handbook by E and O.E.

- Dernst Neufert's Architect's data
- Time saver standards for Architectural Design Data, Editor, John Callender
- Time saver standards for building types, editor joseph D. C. and John Callender.

Term II :

COURSE OBJECTIVES :

Elaborating the design process as a synthesis of a variety of factors, analyzed and studied.
Develop a perception of space and a sense of visualization with the help of tools like sketches, drawings, models, computer animation etc.

COURSE OUTLINE :

- Study of settlement environment – visit to nearby settlement to study spaces in the cluster environment.
- Study of life style, climate and social structure.
- Study of houses, their relationship with common spaces, public buildings of the settlement with residential clusters etc.
- Study of various categories of open spaces of the settlement and their inter relationship with each other as well as built spaces around.
- Study of the road and transportation network within the settlement and connectivity with surrounding areas.
- Design project should be related to settlement study carried out.

SESSIONAL WORK :

Sufficient number of projects to cover the topic.
Stress should be given on three-dimensional study and communicating the design / study through effective two and three-dimensional drawings / sketches and models, rather than words.

REFERENCE MATERIAL

- Elements of Architecture – Meiss Pieree Von
- A pattern Language by Alexander Christopher
- Structure in Architecture – Heller Robert and Salvadori Mario
- Total Architecture Walter Gropius.
- Structure in Nature – Strategy for Design – Peter Pearce.
- Patterns in Nature – Peter Streens
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- Architecture : Form, Space and order – Francis D. K. Ching
- A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fairweather
- Architectural Graphic standards editor – Boaz Joseph
- Planning – the Architect's handbook by E and O.E.
- Neufert's Architect's data
- Time saver standards for Architectural Design Data, Editor, John Callender
- Time saver standards for building types, editor Joseph D. C. and John Callender.

SUBJECT CODE : 113423 **ARCHITECTURAL DRAWING AND GRAPHICS I - SS**			
TEACHING SCHEME		**EXAMINATION SCHEME**	
Lecture Periods	1	Paper	nil
Studio Periods	5	Sessional Term I	100 marks
Total Contact Period (Per Week)	6	Sessional Term II	100 marks
		Viva-voce	nil
		Total Marks (Sessional)	200

Term I :

COURSE OBJECTIVES :

1. To develop students to understand Graphic Language for Communication.

2) Elements of Special Attributes

3) Chinese Civilisation

1) General Architectural Character with description of elements of special Attributes

Sessional Work -

The 'Sessional Work' shall comprise of the following.

(i) A hand written journal with notes and manual sketches of representative examples (10marks)

(ii) A graphically presented or a written report with illustration of Any One of the topics to be individually elected and completed under the periodic supervision and guidance of the subject teacher. (20 marks)

(a) Scaled manual documentation of field studies of precincts streets, building or parts thereof and artifacts bearing significance to the periodic history under study (not more than two half imperial sized sheets A2 – 420 x 594 mm each)

OR

(b) Graphically illustrated and annotated manual presentation on 'Style identification' of Building or parts thereof bearing significance to periodic history under study (not more than two half imperial sized sheets (42 – 420 x 594 mm each).

OR

(c) A hand written illustrated report of not more than 1000 words on comparative study of architectural features, motifs, design themes and typological planning evolutions in the periodic history under study. (20marks)

Recommended Readings

A. B. Gallion : Urban Pattern.
Pt. Jawaharlal Nehru, 'Glimpses of world history"
Geoffrey and Susan Jellico: Landscape of Man
Sir Bannister Fletcher, The History of Architecture
J.E. Swain: History of World Civilisation
H.G. Wells: A short History of the World
Sybil Moholy Nagy : The Matrix of Man
Dora Crouch: History of Architecture
Arnold Toynbee: A study of Architecture
Dora Crouch: Traditions in Architecture
J.Bronowski: The Ascent of Man
Spiro Kostof: History of Achitecture
Gerald Burke : Towns in the Making.

SUBJECT CODE : 113430 **DESIGN FUNDAMENTALS IN ARCHITECTURE I - SS** SUBJECT CODE : 113431 **DESIGN FUNDAMENTALS IN ARCHITECTURE I - Theory**			
TEACHING SCHEME		**EXAMINATION SCHEME**	
Lecture Periods	2	Theory Paper on contents of both terms at the end of term II	100 marks
Studio Periods	-	Sessional Term I	50 marks
Total Contact Period (Per Week)	2	Sessional Term II	50 marks
		Viva-voce	nil
		Total Marks (Sessional)	100

Term I :

COURSE OBJECTIVES :

Introduce students to Architectural Design as core subject of architecture studies.

Understand the relationship of Design Fundamentals of Architecture with other subjects of study.
Progressively introduce the design process as a synthesis of variety of factors analyzed and studied.

COURSE OUTLINE :

1. Introduction to Architectural design as a core subject and its relationship with other studies and subjects
2. Scope and study of Architecture in relation to Art and Technology
3. Scope and study of Building and climate
4. Passive Design policies for Indian climate
5. Scope and study of Building and site
6. Scope and study of orientation of internal spaces of buildings
7. Scope and study of circulation.

SESSIONAL WORK :
Sufficient number of projects to cover the above topics. (30 marks)
Additionally Sessional Work shall consist of minimum four tutorials based on the above topics. (20 marks)

RECOMMENDED READINGS :

1. Structure in Architecture – Heller Robert and Salvadori Mario
2. Design Fundamentals in Architecture – Pramar
3. Architecture : Form, Space and order – Francis D. K. Ching

Term II :

COURSE OBJECTIVES :
Introduce the design process as a synthesis of a variety of factors, analyzed and studied.
Develop a perception of space and a sense of visualization with the help of tools like sketches, drawings, models, computer animation etc.
COURSE OUTLINE :

- Conceptual outline of scope of Architectural structures, consideration of climate, site and circulation in designing efficient activity spaces.
- Brief outline of Basic components of Architectural structure
- Structural efficiencies of materials, Loads and Stress – Situations.
- Principal determinants of 'Form'
- Performance analysis of conventional material, structural efficiencies.
- 'Formal' characteristics of 'Supporting' and 'Supported' elements of conventional structural materials.
- Conceptual comparison of various structural systems.
- Process of Architectural Designing, underlining its implicit need to match the emphasis on technical and aesthetical components. Guidelines on proto-type approaches.

SESSIONAL WORK :
Sufficient number of projects to cover the topic. (30 marks)
Minimum four tutorials based on above topics. (20 marks)
RECOMMENDED READINGS :

1. Structure in Architecture – Heller Robert and Salvadori Mario
2. Design Fundamentals in Architecture – Pramar
3. Architecture : Form, Space and order – Francis D. K. Ching
4.

DETAIL SYLLABUS

FOR

SECOND YEAR

BACHELOR OF ARCHITECTURE

(Second Year B.Arch.)

(to be implemented from 2009-10)

FACULTY OF ENGINEERING

BOARD OF STUDIES IN ARCHITECTURE

SECOND YEAR B.ARCH

Sr. No.	Name of Subject	Teaching Scheme			Examination Scheme		
		Lecture Periods	Studio Periods	Total Periods	Paper Marks	Sessional Marks	Total Marks
1	Basic Design II	1	4	5	--	300	300
2	Architectural Design II	2	5	7	--	300	300
3	Arch. Drg. & Graphics II	1	4	5	--	200	200
4	Bldg. Tech. & Materials II	2	4	6	100	300	400
5	Theory of Structures II	2	2	4	100	100	200
6	H.A. & H.S. II	2	1	3	100	100	200
7	Building Services I	1	1	2	100	200	300
8	Building Sciences	1	3	4	--	100	100
	TOTAL	**12**	**24**	**36**	**400**	**1200**	**2000**

UNIVERSITY OF PUNE.

SECOND YEAR B.ARCH.

BASIC DESIGN-II (sessional)			
Teaching Scheme		**Examination Scheme**	
		Paper	nil
Lecture Periods	1per week.	Sessional (Internal)	75 marks per term Total-150 marks
Studio Periods	4 per week.	Sessional (External)	75 marks per term Total-150 marks
Total Periods	5 per week.	Viva-Voce	nil
		Total Marks for two terms.	300 marks

OBJECTIVES :

This subject aims to provide the students with a sound background in design skills by treating Design as a basic creative activity. It focuses on improving creativity through practicing certain established methods & exercises in creativity and tries to draw inspiration from and establish analogies between other creative arts and architecture.

COURSE OUTLINE :

1. Creation, Creativity and Motivation for architects
2. Psychological qualities, skills & behavior for creativity
3. Role of Experience and Memory in Design
4. Role of Fantasy, Imagination and Reality in Design
5. Blocks to Creativity : Physical and Mental
6. Techniques for improving Creativity :
   - a. Brainstorming
   - b. Lateral Thinking
   - c. List of Mental Associations
   - d. Random Combinations
   - e. Matrix of Ideas
   - f. Use of Manipulative verbs
   - g. Tree of Possibilities
   - h. Abstraction
   - i. Transformation
   - j. Use of the Ridiculous
7. Sources of Inspiration for Architectural Creativity :
   - a. Material
   - b. Geometry
   - c. History
   - d. Nature & Climate
   - e. Mimesis
   - f. Paradox & Exotic & Multicultural
   - g. Association with other arts
   - h. Architectural Biographies

SESSIONAL WORK

Sufficient number of projects should be undertaken to cover the topics. The nature of projects would vary to suit the topics. Documentation of these exercises will be done in A3 size portfolio. Topics 1 to 5 will carry 15% of total marks, topics 6a to 6j will carry 35% of total marks and topics 7a to 7h will carry 50% of total marks. The institutes may take up any 7 topics from 6a to 6j and any 6 topics from 7a to 7h.

REFERENCE BOOKS

1. Graphic Thinking for Architects and Planners by Paul Lassau
2. Poetics in Architecture : Theory of Design by Anthony Antoniadis
3. Architecture : Form Space and Order – Francis D. K. Ching
4. Interior Spaces : Francis D K. Ching
5. Pattern Language – Christopher Alexander
6. Sharpen your team skills & creativity – British Council Library
7. Design of Cities – British Council Library
8. Looking and Seeing Series – British Council Library
9. How architects visualize – SCOA library
10. Art, Architecture Parallels & Connections – SCOA library
11. Design Source Book – BNCA library

TEACHING PLAN

Total Number of projects should be between 12 to 15 in a year (3 to 4 Nos. in topics 1 to 5, and 4 to 6 Nos. in topics 6 and 7 each.)

NATURE OF PROJECTS

Topic numbers 1 to 5 could be in the form of lectures to introduce the subject to the students. They must be documented in form of notes and sketches but may or may not be supported by exercises.

Whereas topic number 6 and 7 should be in the form of exercises followed by documentation in A3 size sheets. The nature of exercises will vary from topic to topic and will be oriented towards exploration of the topic by the students Preferably, the analogy or application of each topic towards architecture is to be made explicit.

ARCHITECTURAL DESIGN-II (sessional and viva)			
Teaching Scheme		**Examination Scheme**	
		Paper	nil
Lecture Periods	2 per week.	Sessional (Internal)	50 marks per term Total-100 marks
Studio Periods	5 per week.	Sessional (External)	50 marks per term Total-100 marks
Total Periods	7 per week.	Viva-Voce	50 marks per term Total-100 marks
		Total Marks for two terms.	300 marks

AIM :

To introduce the students to the various approaches to design process and to impart understanding of various design parameters related to climatic sustainability and seismic resistance along with functional, aesthetic and structural aspects.

TERM-I

Objectives:

1. Introduction of Architectural spaces for multiple activities.
2. Application of climatic consideration as strategic design parameter with respect to human comfort and energy consumption.
3. Introduction to various design process like binary, cyclic, intuitive etc and the importance of literature and case studies in the design process.

Course Outline:

1. Problem seeking and solving within the framework of the design program requirements, inter-relation of spaces, response to climatic parameters etc by means of cyclic and binary design process.
2. Imbibe understanding of built and open spaces by means of rational analysis and intuitive perception.
3. Locating and documenting required contextual information from appropriate sources.
4. Introduction to the application of various tools used for design process such as use of grid, regulating lines, modules etc.

Sessional work:

Sufficient number of projects to be given as assignments to cover the course. Emphasis should be given on the 3-dimensional studies through sketches, study models etc. at various stages of design process. Written description about design should be encouraged as an activity to initiate and sustain a logical and rational thought process for the same.

Teaching plan:

1. At least one project to study, analyze and compare a private residential unit and a small building of public use with respect to the spaces, their inter-relation, scale, ambience, Technology and material for construction, details of doors windows etc..

2 Two projects of six weeks duration for design of building for residential use and small facility of public use. Elements of site planning should be introduced and incorporated in the layout.

3. One Project of one week duration for design of specialized indoor or outdoor space.

Sessional Assesment :

1. 15% of the total marks to be allotted for the study and analysis of the architectural spaces.
2. Out of the remaining 85% marks for the Architectural design proposals, the break-up of marks should be as follows:
    - 20% marks to be allotted for evolving a rational for design.
    - 50% marks to be allotted for development of concept into a workable design
    - 10% marks to be allotted for awareness of climatic design parameters and their application.
    - 20% marks to be allotted for proficiency in Graphical and verbal communication skills (Drawings, models, sketches, and verbal explanation skills etc.)

Term-II

Objectives:

1. Understanding of the co-relation of ***visual aesthetics*** study of basic design exercises with architectural building forms and spaces.
2. Application of climatic design parameter with reference to human comfort and energy conservation..
3. Understanding of the context for the design proposals.
4. Introduction and application of planning approaches for site planning and layout of multi-building campus on level and sloping site.
5. Application of the design parameters for earthquake resistant structures of load bearing building construction systems

Course Outline:

1. Concept development of a given design program on the basis of the basic design principles using various tools like sketches and models and by means of using cyclic and binary design process.
2. Application of layout principles for an architectural development having more than one building.
3. Detailing the basic services(water supply & drainage) and the structural system for their design proposals with specific emphasis on seismic resistant load bearing structures.
4. contextual architectural proposal by studying a settlement and working on a architectural program in that settlement.

Sessional work:

Sufficient number of projects to be given as assignments to cover the course. Emphasis should be given on the 3-dimensional studies through sketches, study models etc. at various stages of design process. Written description about design should be encouraged as an activity to initiate and sustain a logical and rational thought process for the same.

Teaching plan:

1. One project of studying a settlement having primary, secondary and tertiary occupational activities and population between 25,000 to 50,000 persons, by means of surveys and analysis.

2 One to two projects of six to eight weeks duration for design of buildings of varied typology. At-least one project should be based on the settlement studies. Principles of layout should be introduced and incorporated in the layout. Interior furniture layout should be worked out for the proposal.

3. One Project of generating working drawing for their design proposal.

4. One project of detailing the provision of basic services (water supply and drainage) for their design proposal.

Sessional Assesment :

1. 15% of the total marks to be allotted for the study and analysis of the settlement.

2. 20% of the total marks to be allotted for the generation of working drawing and services layout.
3. Out of the remaining 65% marks for the Architectural design proposals, the break-up of marks should be as follows:
    - 30% marks to be allotted for evolving a rational for design.
    - 60% marks to be allotted for development of concept into a workable design.
    - 10% marks to be allotted for proficiency in Graphical and communication skills (Drawings, models, sketches, etc.)

Recommended Reading :

- Francis D.K.Ching -Architecture: form space and order
- Paul Lassau -Graphic thinking for Architects and planners
- Anthony Antoniadis -Poetics in Architecture: Theory of design
- A.P. Kanvinde- Campus Planning in India
- Le Corbusier- The Modular.
- Le Corbusier- Towards the new Architecture.
- Watson Donald and Labs Kenneth. -Climatis Design
- John R. Mather -Climatology: Fundamentals and Application
- Maxwell Fry And Jane Drew -Tropical Architecture
- Christopher Alexander- Pattern Language
- Pierre Von Meiss -Elements of Architecture from form to place
- Jonathan A. Hale -Building Ideas. An introduction to Architectural Theory.
- Robert Sommer. -Design Awareness
- C.M. Deasy -Design for Human Affairs

Architectural Drawing And Graphics II (sessional)			
Teaching Scheme		Examination Scheme	
		Paper	nil
Lecture Periods	1 per week.	Sessional (Internal)	50 marks per term Total-100 marks
Studio Periods	4 per week.	Sessional (External)	50 marks per term Total-100 marks
Total Periods	5 per week.	Viva-Voce	nil
		Total Marks for two terms.	200 marks

Objectives:

To understand and practice the application of the various techniques of perspective, sciography, CAD and advanced presentations in Architectural Design.

Course outline: **Term One**

UNIT I: **Perspective Drawing:** The topic of perspective drawing will consist of drawing exercises on :

- Understanding the application of principles of perspective drawing.
- Drawing perspective views by one point and two point perspective methods.
- Perspective by measuring point method.

Unit I : Introduction to principles of load bearing construction and introduction to arches.

Unit II : Analysis and designed of simple beams in timber, steel and introduction to fletched beams (No. calculations).

Unit III : Detailed Analysis of fixed beams, introduction of short and long columns.(No calculation)

Unit IV : I.S. provision for load bearing ,R.C.C. and Reinforced Brick Construction.

Unit V : R.C.C. Analysis and Design.

Unit VI : Design of steel structure with connections.

Note : While teaching the subject of Theory of Structures Limit State Method shall be adopted instead of Working Stress Method.

RECOMMENDED READING :

1. Design of steel structures-Vazirani – Rathwani.
2. Design of steel structures- L.S. Negi.
3. R.C.C. Design – Khurmi, Punmia, Sushilkumar.
4. Elements of Structures – Morgan.
5. Structure in Architecture – Salvadon and Heller.
6. Structure Decisions – F. Rosenthal.

TEACHING PLAN :

1. Introduction to principle of Load bearing construction with relevant clauses from I.S. Code.
2. Study of two hinged and fixed arches. (Without numerical).

HISTORY OF ARCHITECTURE & HUMAN SETTLEMENTS II
(Paper and Sessional)

Teaching Scheme		Examination Scheme	
		Paper	100 marks at the end of term II
Lecture Periods	2 per week.	Sessional (Internal)	25marks per term Total-50 marks
Studio Periods	1 per week.	Sessional (External)	25 marks per term Total-50 marks
Total Periods	3 per week.	Viva-Voce	nil
		Total Marks for two terms.	100 marks (Paper) 100 marks (Sessional)

- **COURSE OBJECTIVES:**

Architectural History is the manifestation of the socio-cultural, intellectual and other factors of the specific time, space and people. It is necessary for students to develop interest in understanding styles, buildings, construction, and special attributing features in those contexts.

- **COURSE OUTLINE:**

The study includes the progressive developments of the requirements, architectural character and technological advancements of each period / style. The analytical study must include examples and sketches with highlighting the relevant features.

- **Term I**

1. **Early Christian Architecture:**
   - Transitional socio-cultural, political and other factors.
   - Basilican church typology: planning, construction and other features.
   - Relevant examples for analytical studies.
2. **Byzantine Architecture:**
   - Influence of socio-political, geo-cultural and other factors.
   - Centralized church typology: Spatial planning, construction and other features.
   - Relevant examples for analytical studies.
3. **Romanesque Architecture:**
   - Influence of Early Medieval socio-political, cultural and other factors.
   - Church and the precinct: Architectural planning, constructional and other features.
   - Elements of special attributes: Campanile, raking arcade, wall-passage, triforium

   Relevant examples for analytical studies.
4. **Gothic architecture:**
   - Influence of Late Medieval socio-cultural and other factors.
   - Cathedrals, Monastic establishments, Parish churches: spatial planning, construction and other architectural and structural features.
   - English and French church planning.
   - Secular architecture: Manor houses, castles.
   - Town planning principles.
   - Elements of special attributes: flying buttress, window tracery, stained glass.

   Relevant examples for analytical studies.
5. **Renaissance Architecture:**
   - Influence of socio-cultural and other factors.
   - Revivalism and synthesis of classical features.
   - Churches, Palazzo, villa: spatial planning, construction and other architectural features.
   - Elements of special attributes: Order, Balustrade, Cornice, rustication
   - Town Planning principles.
   - Post Renaissance: Baroque architecture.
   - Relevant examples for analytical studies.

Sessional Work

The Sessional work shall comprise of individual work of the student completed under the guidance and supervision of the subject teacher as follows:

1. **Journal**: Hand written journal with notes and manually drawn sketches of relevant examples on the above mentioned syllabus contents: **30 marks**
2. **Project work**: a report or graphical representation or a model of any relevant topic from the above mentioned syllabus contents: **20 marks**

Term II

1. **Indus Valley Civilisation:**
   - Influence of socio-political and geo-climatic aspects.
   - Dwellings and Public Buildings: Architectural character, constructional features.
   - Town planning principles.

   Relevant examples for analytical studies

2. **Vedic Civilisation:**
   - Influence of socio-political and geo-climatic aspects.
   - Architectural and constructional features.
   - Town planning principles.

   Relevant examples for analytical studies.

3. **Buddhist Architecture:**
   - Influence of socio-cultural aspects.
   - Rock-cut architecture: Hinayana and Mahayana periods.
   - Stupa, Chaitya, Vihara: spatial planning, architectural features.
   - Elements of special attributes: free-standing pillars, railing, torana.

   Relevant examples for analytical studies.

4. **Hindu Architecture:**
   - Temples: spatial arrangements, construction, ornamentation.
   - Elements of special attributes: columns, shikharas.
   - Temple complex.
   - Following styles to be studied with relevant examples:

   a. Gupta Period.
   b. Indo-Aryan / Nagara School: Khajuraho, Orissa school.
   c. Dravidian School: Early Chalukyan, Rashtrakuta, Late Chalukyan.
   d. Deccan Styles: Pallava, Chola, Pandya, Vijaynara, Madura.
   e.

5. **Jain Architecture:**
   - Chaumukh temple, Temple town.

6. **Indo-Islamic Architecture:**
   - Socio-political influence.
   - Building Types: Mosques, Tombs.
   - Architectural character: Spatial arrangements, structural system, constructional features, surface ornamentations, fenestration details.
   - Elements of special attributes: arch, dome.
   - Following styles to be studied with relevant examples:

   b. Delhi-Sultanate / Pathan Imperial.
   c. Pathan Provincial: Gujrat, Deccan.
   d. Mughal.
   e. Post-Mughal: Maratha architecture: forts, temples, wada.

Sessional Work

The Sessional work shall comprise of individual work of the student completed under the guidance and supervision of the subject teacher as follows:

1. **Journal:** Hand written journal with notes and manually drawn sketches of relevant examples on the above mentioned syllabus contents: **30 marks.**
2. **Project work**: a report or graphical representation or a model of any relevant topic from the above mentioned syllabus contents: **20 marks.**

- **Recommended Readings:**

1. A History of Architecture by Sir Bannister Fletcher.
2. History of Architecture by Spiro Kostof.
3. The Story of Western Architecture by Bill Risebero.
4. Indian Architecture (Vol. I & II) by Percy Brown.
5. History of Indian and Eastern Architecture by James Fergusson.
6. Hindu India by Henry Stierlin.
7. Islamic Architecture in India by Satish Grover.
8. The History of Architecture in India by Christopher Tadgell.
9. A History of Fine Arts in India and West by Edith Tomory.

BUILDING SERVICES I (Paper and Sessional)			
Teaching Scheme		**Examination Scheme**	
		Paper	100 marks at the end of term II
Lecture Periods	1 per week.	Sessional (Internal)	25marks per term Total-50 marks
Studio Periods	1 per week.	Sessional (External)	25 marks per term Total-50 marks
Total Periods	2 per week.	Viva-Voce	nil
		Total Marks for two terms.	100 marks (Paper) 100 marks (Sessional)

AIM : To introduce students to the concepts of water supply, sanitation, electrification and equip them in its application to architectural design, so as to create hygienic and comfortable living conditions.

COURSE OBJECTIVES

a. To introduce students to concepts of basic services and its applications.
b. To equip students with the required information and technologies.
c. Application of this knowledge in architectural design project.
d. Evolving understanding in students to choose appropriate systems and integrate the same in their design projects.

TERM 1

COURSE OUTLINE.

- Introduction to sources of water. Elements of public water systems, quality of water, pumping and transportation of water, distribution systems, components of water supply network in a building premise, ferrule, water meter, stop cocks, bib cocks and pipe appurtenances. Overhead and underground reservoirs.
- Connections for hot and cold water distribution systems in a building premise, their layouts, fittings, joints, materials and valves. Direct and indirect systems of hot water supply. Solar heating methods. Special installations in multistoried buildings. Types of fixtures and materials.
- Rain water harvesting methods.
- Conditions of flow in building drainage pipes. traps, vents and their material specifications. Design of drainage and vent system for low, medium and high rise buildings. Design of storm water drainage, building drains, sewers, gully traps, inspection chambers, manholes, connection to public sewer.
- Waste water disposal systems, septic tanks, soak pits, on site processing and disposal methods.
- Collection, removal and disposal of solid waste from building premise.

TEACHING PLAN

Unit 1 Water Supply

a. Tapping of water.
b. Storage and distribution of water in premises.
c. Pipes, piping network, specials, materials, joinery, installation of network both open and concealed.
d. All appurtenances required for installations e.g. taps, faucets, mixing units, valves, flushing cisterns, flushing valves and other fittings.

Unit 2: Hot water supply.

a. Direct and indirect systems of hot water supply, their components and equipments used for the same.
b. Insulation of piping work and safety devices.
c. Solar heating.

Unit 3: Drainage and sanitation.

a. Study of sanitary fittings with reference to use, materials and functions.
b. Traps and their uses. Classification of traps as per use and shape.
c. Pipes and piping systems, specials, vent and anti-siphonage systems, jointing and installations.
d. Storm water and roof drainage systems and their installations.
e. Underground drainage systems with application of ventilation, self cleansing velocity, laying of drains to required gradients and testing of drains.
f. Disposal of sewage within the premises using septic tanks, effluent treatment plants, their function and layouts.

Unit 4: Solid Waste disposal

a. Collection, treatment and disposal of organic and inorganic waste, like traditional methods, garbage chutes, urban solid waste treatment systems, vermicomposting etc.

SESSIONAL ASSIGNMENT

Assignments shall consists of

1. Designing of toilet blocks in residential and public buildings and preparation of working drawings of the same, showing complete details of fittings and plumbing required for water supply and drainage.
2. Designing and preparing a complete water supply and drainage layout of an academic architectural design project, with all required calculations.
3. Compiling of required information collected from site visits, market surveys and other sources.

SESSIONAL ASSESMENT

1. 40% marks will be allotted for compilation of literature, brochures, material/product specifications, market surveys etc. As per assignment no.3 above.
2. 60% marks shall be allotted for service layout, with details. As per assignment nos. 1&2 above

TERM- II

COURSE OUTLINE

- Introducing students to different illumination systems; light sources; daylight; incandescent; fluorescent; arc lamps and lasers; luminaries; wiring; switches and control circuits.
- Laws of illumination; illumination from point, line and surface sources. Environment and glare, general illumination design; interior lighting- industrial, office, residential, commercial etc; exterior lighting- flood, street, transport, lighting for displays, neon signs, LED-LCD display beacons.
- Layout of different meters and protection units. Different type of electrical loads and hazard prevention . Selection of cable/wire sizes; emergency supply-stand by and UPS.

TEACHING PLAN

Unit 5: Lighting

a. Indoor lighting- natural and artificial.
b. Systems of lighting such as direct, indirect, diffused.
c. Applications of lighting systems with reference to levels of illumination for various uses and lumen method calculations.
d. Light fittings/ luminaries-All types of energy efficient lamps, optic fiber, led etc.

Unit 6: Electrification

a) Introduction to generation and distribution of electric power in urban areas, substations for small schemes in industrial units.
b) Electrical system installations in a building from the supply mains to individual outlet points, including meter board, distribution board and layout of points with load calculations.
c) Electrical wiring systems for small and large installations including different material specification.
d) Electrical control and safety devices- switches, fuse, circuit breakers, earthing, lightning conductors etc.

SESSIONAL ASSIGNMENT

Assignments shall consists of

a. Preparing an electrical layout for part of design project, with load calculations. .

b. Compiling of required information collected from site visits, market surveys and finding out latest trends and materials for the same.

SESSIONAL ASSESMENT

1. 40% marks will be allotted for compilation of literature, brochures, material/product specifications, market surveys etc.
2. 60% marks shall be allotted for service layout, with details.

- **RECOMMENDED READING**
  a. Johnson A- Plumbing
  b. Mitchell-Sanitation, Drainage, and Water Supply
  c. Peter Burberry-Environment and Services
  d. E.H.Blake-Drainage and Sanitation
  e. Kshirsagar-Water Supply and Sanitation Engineering
  f. Woolley Leslie-Drainage Details
  g. National Building Code 2005

BUILDING SCIENCES (Sessional)			
Teaching Scheme		**Examination Scheme**	
		Paper	nil
Lecture Periods	1 per week.	Sessional (Internal)	25marks per term Total-50 marks
Studio Periods	3 per week.	Sessional (External)	25 marks per term Total-50 marks
Total Periods	4 per week.	Viva-Voce	nil
		Total Marks for two terms.	100 marks (Sessional)

TERM 1 : CLIMATOLOGY

AIM :

To help students understand the methods of passive climatic control of the surrounding and energy efficiency in habitable spaces and integrating this in their architectural design process.

COURSE OBJECTIVES

- To understand the different climatic zones of world and evolution of traditional architecture in response to the same.
- To enable the students to read and interpret climatological data of the different climatic zones.
- Role of site planning and orientation in their architectural design.
- The role of landscape elements and paved areas in site planning and its impact on microclimate.
- Role played by building elements such as shading devices, fenestrations and its application to achieve comfort in building.

COURSE OUTLINE

Introduction to Climatology: To make application of climatology an integral part of their design. To make students aware of solar passive strategies, the principles of daylight and natural ventilation. To introduce ECBC rules and concept of green buildings.

OBJECTIVE:

To help students understand the use of surrounding environment as a strategic design parameter with respect to human comfort and energy conservation.

UNIT-1

a) Introduction to climate as a factor of human shelter, comfort and environment.
b) Its classification as global, macro and micro climate. Preparation of sketches showing earth-sun relationship and atmospheric depletion.
c) Understanding maps showing ocean currents, wind pattern and wind shifts with respect to seasonal changes.
d) Study of climatic zones along with traditional dwelling units.

UNIT-2

a) Study of analysis of climatic zones (Hot –dry, Hot-Humid, Composite, Cold-dry, Cold-humid) in India along with data analysis.
b) Study measurement and analysis of micro climatic elements and its use for a Designer.

UNIT-3

a) Study of heat exchange process between human body and its surroundings with respect to criteria of comfort.
b) Study of heat exchange processes between building along with periodic change and the calculations required for heat exchange.
c) Study of bio-climate charts its analysis and extension of comfort zone with respect to given data and relating this with (b) of unit 2.

UNIT-4

a) Design strategies for Indian climate zones with respect to various climate zones.
b) Study of solar control with references to solar charts.
c) Methods of calculating and designing of shading devices.
d) Introduction to concepts of solar energy utilization in heating water such as Flat Plate collectors.
e) Introduction to use of Solar energy in lighting in buildings such as Photovoltaic cells.
f) Solar passive strategies-Principals of natural light and natural ventilation.
g) Introduction to ECBC rules, Energy audit and Green buildings rating eg. TERI Griha, LEED etc.

SESSIONAL WORK (Total 50 Marks at the end of Term I)

01) Assignments based on analysis and design.
   a. Analysis of bio-Climatic Charts.
   b. Identification of climatic zones from given data.
   c. Suggestions to extend comfort zone.
02) Site analysis with respect to micro-climatic elements.
   a. Analysis of site and identification of suitable zone for building site for the first assignment done in Arch. Design

03] Design of appropriate shading devices for given openings for different orientation for the 2nd assignment done in Arch. Design.

Sessional work for 2 & 3 *may* be assessed in Arch Design III giving an allocation of 10% of the total marks allotted for Arch Design III

04] Study and analysis of an existing structure with respect to:
a) Orientation
b) Opening size and shading devices.
c) Walls and roofs.
d) Internal space distribution with respect to activity Preparation of report in groups consisting of not more 10 students.

05) Journal with class notes and tutorials.

RECOMMENDED READING

- Climatology Fundamentals and application – John R Mather
- Introduction to Climatology – Anthony Sealey.
- Climatologically & Solar data for India – T. N. Seshadry.
- Climatic Design – Watson Donald.
- Manual of tropical housing and building – Koenigsberger & Ingersol.
- Tropical Architecture – Maxwell Fry & Jane Drew
- Design Primer for Hot Climate – Allan Konya
- Sun, Wind and Light by G. Z. Brown.
- Energy Efficient Housing by Mili Majumadar, Published by TERI.
- Climatically Responsible Energy Efficient Architecture by Arvindkrishnan.
- Housing Climate and Comfort by Martin Evans.

TERM II : SURVEYING AND LEVELLING
AIMS AND OBJECTIVES.

- To enable the students to get conversant with locating the object positions in horizontal and vertical plane with desired accuracy as needed for architectural profession.
- To prepare and interpret survey drawings.

Every effort will be made to relate the practical and field work and make it appropriate for the profession of Architecture and execution of building projects. Students should be exposed to latest modern gadgets available for precise work in the field and also use of computer software in this subject.

DETAILED SYLLABUS.

Unit I: Linear Measurements. Measurements in horizontal plane, survey stations, survey lines open and closed traverse, locating objects by chaining and offsetting, direct and indirect ranging, locating field boundaries and working out area of field, measuring distances with chain, tapes, ODM's ,EDM's, introduction to Total Station, survey accessories, measurements along sloping ground.

Unit II: Chain Surveying: Base line, tie lines, check lines.

UNIVERSITY OF PUNE

DETAIL SYLLABUS

FOR

THIRD YEAR BACHELOR OF ARCHITECTURE

(Third Year B.Arch. & B.Arch. Interior Design) 2008 Course

(to be implemented from 2012-13)

FACULTY OF ENGINEERING

BOARD OF STUDIES IN ARCHITECTURE

THIRD YEAR B.ARCH. & B.ARCH. INTERIOR DESIGN

Sr. No.	Subject Code	Name of Subject	Head	Teaching Scheme			Examination Scheme		
				Lecture Periods	Studio Periods	Total Periods	Term I Marks	Term II Marks	Total Marks
1	313421	Architectural Design III	SV	4	6	10	250	250	500
2	313422	Architectural Design III	Theory				--	100	100
3	313423	Bldg. Tech. & Materials III	SV	2	5	7	150	150	300
4	313424	Bldg. Tech. & Materials III	Theory				--	100	100
5	313425	Theory of Structures III	SS	2	1	3	50	50	100
6	313426	Theory of Structures III	Theory				--	100	100
7	313427	Building Services II	SS	2	2	4	100	100	200
8	313428	Building Services II	Theory				--	100	100
9	313429	Landscape Arch. and Env. Sciences	SS	1	2	3	50	50	100
10	313430	Seminar on Contemporary Architecture	SS	2	--	2	50	50	100
11	313431	Working Drawing	SS	2	3	5	100	100	200
12	313432	Technical Communication	SS	1	1	2	50	50	100
		TOTAL		16	20	36	800	1200	2000

DETAIL SYLLABUS

Subject Code : **313421 ARCHITECTURAL DESIGN III.**(Sessional and Viva) **313421 ARCHITECTURAL DESIGN III.**(Paper)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	4	Term I and Term II Sessional (Internal) Sessional (External) Viva	 100 marks (for each term) 100 marks (for each term) 50 marks (for each term)
Studio Periods per week	6	Total sessional marks for both terms	500 marks
Total Contact Periods per week	10	Paper	100 marks
		Total Marks	600 marks

AIM :

Introduce students to design of buildings with complexities related to services, structure and site planning to accommodate more than one building on a site and help the students to evolve the integrated understanding of the complex relationship between the form, function, context and aesthetics in a building.

OBJECTIVES

1. Introduction to Campus design with reference to design development of campuses developed in the past.
2. Integrating function, structure and services in a building, choice of structural system and resultant effect on visual form / aesthetics of building
3. Development of building design program from client or user's requirements and other social, economic and climate context.
4. Managing a design project – Management of time, compilation, documentation, presentation of information to others and self.
5. Labouring the design process, communicating the design.
6. Introduction to design philosophy.
7. Analysing multiple buildings to be accommodated within a campus and understanding their relationship with each other in context to continuity of form, construction and materials, design theme, climate, etc.
8. Analysing activities around the buildings within a campus and understand the same in context to relation of built form and open spaces, elements of landscape, pedestrian and vehicular movement, their segregation, managing sloping sites, contours, etc.
9. Designing of progressively complex spaces and buildings in terms of area, typology, function etc, with emphasis on either scale or complexity of the project, or both. Complex of low rise and medium rise nature, e.g. – Shopping Mall, Nursing homes / Hospitals with residences, Educational Campus for schools. Auditorium for Cinema / performing arts, Museum, Small industrial complex, Medium scale hotels and resorts, etc.
10. To study a location in a different socio-geographic setting than the Institute, and document the study done during in the tour in the form of a report with emphasis on relevant aspects like climate, social structure, culture, architectural typology, construction technology, urban fabric, economy, etc or any other issues which need to be considered for envisaging a design project in totality.
11. To design in the context of the Location studied, with emphasis on all the aspects that would influence the Design solution.
12. To understand various issues and aspects like sustainability, earthquakes, construction, barrier free environments, etc. and study how these could be integrated in the architectural design process.

SESSIONAL WORK.

Design projects to be given as assignments could be classified into two types.

Type 'A' :- Long duration projects (8-12 weeks)

These could be :

i. Project based on Campus Design with emphasis on site planning & relationship of built and open spaces, circulation and movement pattern, activity pattern, architectural character and image, philosophy etc.

ii. System based project (multistoried / service oriented) with emphasis on structural system, services like HVAC, electrical, etc. fire frightening systems, parking, rules & regulations etc.

Either i or ii could be Issue based Projects- designing in the context studied and addressing various issues of the study context like climate, social structure, culture, architectural typology, construction typology, urban fabric, economy etc.

Type B : Short duration Project (1-3 weeks)

These could be projects dealing with a singular aspect at a time, with emphasis on structures / sociology/ sustainability/ earthquake resistant construction/ specialized services / adaptive reuse of buildings / façade design / interiors / industrial building / barrier free environment or any other appropriate aspect

At least one project of type 'A' and one project of type 'B' to be taken up in a term.

- Stress shall be give on three- dimensional studies through sketch perspectives and models prepared at various stages of design process.
- All Architectural Design Assignments and submissions shall lay emphasis on designing Earthquake Resistant Structures, which will be worked out in consultation with the Teacher of Structures and the Submission work will reflect various technologies adopted.

NOTE:

In order to have parity in nature and complexity of Design Projects it is Suggested that teachers from all the Colleges teaching the subject of Architectural Design shall meet at the beginning of First and Second Term and finalise broad outline of the subject topics, its extent and complexity and also the submission requirements.

RECOMMENDED READING

1. Campus design in India – Kanvinde & Miller
2. Compus Planning _ Richard Dober.
3. Urban Design. The Architecture of towns and cities. –Paul Sprereingen.
4. Exterior design in Architecture ___Ashihara Toshinibu
5. Modern Language of Architecture ___Bruno Zevi.
6. Modern Movements in Architecture ___Charles Jencks
7. Language of Post – modern Architecture - Charles Jencks
8. Complexities and contradictions in Architecture – Robert Venturi
9. Architectural Composition. –Rob Krier.
10. Pattern Language Christopher Alexander.
11. Town Design –Fredrick Gibberd Alexander
12. Various monographs and periodicals

Subject Code : **313427 BUILDING SERVICES II** (Sessional) Subject Code : **313428 BUILDING SERVICES II** (Paper)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	2	Term I and Term II Sessional (Internal) Sessional (External) Viva	 100 marks (for each term) 100 marks (for each term) Nil
Studio Periods per week	2	Total sessional marks for both terms	200 marks
Total Contact Periods per week	4	Paper	100 marks
		Total Marks	300 marks

AIM : To introduce students to the concepts of, indoor environmental quality control and providing ambient / comfortable habitable conditions, by integrating the knowledge of active as well as passive methods, in architectural design aimed at environmental sustainability.

TERM 1

COURSE OBJECTIVE

1. To equip students with the knowledge of mechanical ventilation /HVAC and the required technology for application.
2. Integrating these technologies with their architectural design.
3. Evolving understanding in students to choose appropriate systems.

COURSE OUTLINE

AIR CONDITIONING

Introduction to mechanical ventilation, forced ventilation, types of fans used, simple calculations to decide on the no. of fans / sizes

Introduction to fundamental principles of air conditioning. Fluid flow, Heat transfer. Psychometrics of air conditioning processes. Health and comfort criteria, comfort chart. Selection of indoor and outdoor design conditions. Air conditioning systems, selection of systems, ventilation for cooling. Transmission and distribution of conditioned air. Duct size calculations.

TEACHING PLAN

Unit 1

a. Forced ventilation- types of fans used, calculations to decide on the no of fans required
b. Air conditioning – heating and cooling, air conditioning equipment, air distribution, data and space requirements.

SESSIONAL ASSIGNMENT

Assignments shall consists of

a. Calculating the sizes and no. of fans required to be provided or a specific interior and its layout for the same.
b. Preparing an air conditioning layout for part of design project, with duct size calculations.
c. Compiling of required information collected from site visits, market surveys and finding out latest trends and materials for the same.

SESSIONAL ASSESMENT

1. 40% marks will be allotted for compilation of literature, brochures, handbooks, market surveys etc.

2. 60% marks shall be allotted for services layouts, with details.

TERM II:

AIM.

Understanding of design criteria for good hearing conditions in enclosed and open spaces with relation to spatial characteristics and developing the ability to apply the same to architectural design.

Integrating passive and active fire fighting systems in architectural design projects.

COURSE OBJECTIVES:

1. To equip students with the knowledge of acoustics and the required technology, for its application.
2. Integrating these technologies with their architectural design.
3. Evolving understanding in students to choose appropriate systems.

COURSE OUTLINE

Introduction to architectural acoustics. Acoustical problems in architectural design. Criteria for good hearing conditions in enclosed and open spaces. Properties of sound. Human ear and its cognizance to hearing. Reverberation; Sabine's formula for reverberation time. Sound absorbing materials, their properties and applications. Acoustical requirements in an auditorium design. Acoustical designs of rooms for speech, music and recording studio. Sound amplification systems. Environmental noise control, air-borne and structure borne noise, control of mechanical noise and vibrations. Transmission of sound, noise reduction.

Methods of fire-fighting, rules, regulations and equipment.

TEACHING PLAN

Unit 1. Acoustics

a. Brief history of architectural acoustics, acoustical problems as outcome of contextual influences and limitations of materials and technologies.
b. Characteristics of sound.
c. Study of acoustical materials, their classification and application.
d. Acoustical treatment to various enclosed spaces with calculations of the time of reverberation.
e. Noise control.
f. Sound amplification systems.
g. One live case study.

Unit 2. Fire fighting and fire safety.

a. Causes and spread of fire, combustibility of building materials, structural elements and their fire resistance.
b. Passive control- fire protection in buildings, safety codes, rules and regulations.
c. Active control- fire fighting using fixed and portable fire fighting equipment.

SESSIONAL ASSIGNMENT

Assignments shall consists of

a. Calculating the time of reverberation for an enclosed space and designing an acoustical treatment for the same, to achieve good hearing conditions.
b. Compiling of required information collected from site visits, market surveys and finding out latest trends and materials for the same.
c. Case study for fire fighting and fire control for an apartment building, with basement parking.

SESSIONAL ASSESMENT

1. 40% marks will be allotted for compilation of literature, brochures, handbooks, market surveys etc. .
2. 60% marks shall be allotted for acoustical treatment of an interior space.

RECOMMENDED READING

1. Ernest Tricomi-ABC of Air conditioning
2. Heating and Air Conditioning of buildings.
3. Smith, Philips and Sweeney-Environmental Science
4. Doelle Leslie-Environmental Acoustics
5. Knudsen and Harris-Acoustical designing in architecture
6. K.A.Siraskar-Acoustics in building design
7. National Building code.

Subject Code : 313429 LANDSCAPE ARCHITECTURE & ENVIRONMENTAL SCIENCES (Sessional)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	1	Term I and Term II Sessional (Internal) Sessional (External) Viva	50 marks (for each term) 50 marks (for each term) Nil
Studio Periods per week	2	Total sessional marks for both terms	100 marks
Total Contact Periods per week	3	Paper	Nil
		Total Marks	100 marks

AIM :

To introduce the students to landscape design and site planning and imbibe importance of integrated design of built & open spaces and evolve understanding of sustainable site development addressing the functional, aesthetic and environmental issues.

TERM 1

COURSE OBJECTIVES

a. To introduce the students to Landscape architecture and its scope.
b. To develop understanding of site analysis and site planning and integrated design of open and built spaces.
c. To understand the elements and principles of landscape design and role of landscape elements in design of outdoor environments on the site.
d. To study the changing relationship of man with nature in various parts of the world through various ages and study history of landscape design.

COURSE OUTLINE

Introduction to Landscape Design – its scope and objectives; elements and principles of landscape design and their application in outdoor space design; Site studies and site planning : Integration of built and open spaces; Introduction to storm water drainage , planting design & grading. History of landscape design.

TEACHING PLAN

Unit 1 Introduction

Introduction of landscape architecture, its scope and understanding the differences between landscape design and building design. Significance of time in landscape design.

Unit 2 Site Studies and Site Planning

Principles of site planning. Site survey and appraisal – the physical and social context of the site and various site characteristics such as microclimate, topography, hydrology, existing features (natural and manmade), etc. Site suitability analysis. Process of developing a brief for open spaces. Design issues in site planning and siting of buildings. Integrated approach to design of building and open spaces. Introduction to grading, landform modifications and surface water drainage.

Unit 3 Elements & Principles of Landscape Design

Elements of landscape Design – Landform, water, plants and built elements (hard areas, paths, terraces) . Understanding the visual (colour, form, texture) characteristics and also the non-visual characteristics (smell, touch, sound) characteristics of these elements and their usage to achieve the functional, aesthetic and environmental goals. Principles of landscape design (harmony, balance, contrast, etc.).

Unit 4 History of Landscape Architecture

Changing relationship of man with nature in various phases in history and its influence on the environment. Reviewing landscape design and garden design in history in various parts of the world & phases in history – Eastern (India, China, Japan), Western (Egypt, Mesopotamia, Greece, Roman, Medieval, Renaissance & Baroque, English school) and Central (Persia, Islamic landscapes). Industrialization, New towns, Need for parks, Park movement in America. Contemporary movements.

SESSIONAL WORK

1. At least one landscape design & site development project (limited to one building on a site) in which students should evolve a rational behind design of open spaces based upon functional aspects, microclimatic analysis including building shadow analysis, visual and spatial character desired and then develop a landscape design. (**60%** of total marks allotted). The design should be presented in form of drawings to explain the landscape development in totality, which shall include comprehensive landscape development plan, site sections, sectional details, planting policy, views etc.
2. Written Assignments (**40%** of total marks)

a. Unit 3 (Landscape elements): Visit to designed landscapes and preparing case study appraisal report of not less than 1000 words supported by graphics. (10% of total marks)

b. Unit 4 (History of landscape architecture) : Detailed essay of at least 1500 words with graphical illustrations based upon the topics in the syllabus on themes such as comparisons, case studies, use of landscape elements in history etc. (10% of total Marks)

c. Test on units 1 to 4: 20% of total marks.

TERM 2

COURSE OBJECTIVES

a. To evolve understanding of plant selection for functional, aesthetical and ecological applications in design based upon the plant characteristics and their habits.

b. To introduce the concepts of sustainable site planning, components of environment and environmental concerns.

c. To develop understanding of the role of landscape design in evolving sustainable site planning and also in passive climatic control at building and site level.

d. Introduction to landscape construction and services.

e. Application of the knowledge of site planning and landscape design to address the environmental issues.

COURSE OUTLINE

Plants and Design; Introduction to landscape construction and services (drainage, irrigation, lighting); Execution of a landscape proposal; Environment – components and issues; Environmental concerns: landscape design & sustainable site planning; landscape design in situations such as roof tops & indoor locations; role of landscape design in response to environmental issues in urban areas.

TEACHING PLAN

Unit 5 Plants and Design

Study of plant material – trees, shrubs, ground covers and climbers, physical characteristics and habit. Role of plants in landscape design. Plant selection criteria – functional, visual, ecological and micro climatic aspects. Building shadow analysis for ascertaining hard-soft areas and choice of plants.

Unit 6 Landscape Construction and Services

Introduction to the landscape services – lighting, surface water drainage systems, irrigation systems. Introduction to construction in landscape – paths, retaining walls, level changes, fences, boundary walls, decks, gates, trellis, pergola etc. Introduction to landform modifications, earthworks and grading. Roof top landscapes and indoor landscapes. Understanding the process of the execution of a landscape proposal.

Unit 7 Environment: Components and Concepts

Introduction to environment and its components (biotic and abiotic), Concepts of energy and resource conservation, bio-diversity, pollution, green house effect, ozone layer depletion, sustainability.

Unit 8 Environmental Concerns, Landscape Design and Sustainable Site Planning.

Application of the knowledge of site planning and landscape design to address the environmental issues, achieve passive climatic control and evolve sustainable site plan. Water harvesting (roof water, recharging ground water), solid waste management (vermiculture pits, composting, degradable and non-degradable wastes). Root zone treatment. Sewage treatment plant. Landscape design in response to environmental problems in urban areas.

SESSIONAL WORK

1. At least one campus planning project (with more than two buildings on the site) from the third year architectural design which the student has undertaken. A comprehensive site and landscape development plan should be submitted along with supporting background work such as site analysis, slope analysis, zoning rationale, building program analysis. Design proposal should include a comprehensive landscape development plan, Site sections, planting policies, details of civil work items such as steps, retaining wall, planters etc., surface water drainage concept. (**70%** of total Marks).
2. Written Assignments (**30%** of total marks)
    a. Unit 5 (Plants and design): Study and documentation of at least four plants to understand their characteristics and use in landscapes. (10% of total marks)
    b. Unit 7 & 8 (Environment): Literature or case study review and discussion of any one environmental issues pertinent to the syllabus. (10% of total marks).
    c. Test on units 5 to 8: 10% of total marks.

RECOMMENDED READINGS:

1. **Appleton, J**. *The Experience of Landscape*, London: John Wiley & Sons. 1995.
2. **Bose, T.K. and Choudhary, K.**Tropical Garden Plants in Colour. Horticulture and Allied Publishers. 1991.

Subject Code : **313431 WORKING DRAWING** (Sessional)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	2	Terml and Term II Sessional (Internal) Sessional (External) Viva	 50 marks (for each term) 50 marks (for each term) nil
Studio Periods per week	3	Total sessional marks for both terms	200 marks
Total Contact	5	Paper	nil
Periods per week		Total Marks	200 marks

AIM : To enable the students to prepare working drawings of an architectural project and imbibe the significance of working drawings from the point of view of execution of the work on site and as important component of tender documents.

OBJECTIVES :

- The students should be able to prepare drawings in sufficient details such that the contractor is able to construct a building as per the design.
- Graphical presentation of all the components of a building along with dimensioning and annotations.
- Understand and apply IS Codes and internationally accepted norms / conventions / methods of preparing a working drawing along with tabulation of schedules of materials, finishes and hardware.
- Linking up working drawings / specifications / bill of quantities in an architectural project.

TERM I :

- One working drawing of a 2nd yr. architectural design project having load bearing structure with minimum 100 sq. m. carpet area.
- At least two details such as doors/windows/railings/kitchen otah etc.
- Total no of drawings (approx 6 to 8 of A1 size).

TERM II :

- One working drawing of any project of minimum 200 sq.m. from Third Year Architectural Design project having frame construction and minimum G+1 structure.
- Introduction to preparing drawings for approval of local authorities for a residential unit having G+1 structure
- Details of civil work of staircase and a toilet.
- Interior working drawing of a room from the project with at least details of two furniture types : 1 drawing A1 size.
- Total No of drawings (approx.6to 8 of A1 size.)

The drawings may be manually drafted or computer generated as per the choice of students and availability of computers with the college.

REFERENCES:

Architects Working Details

Final.

UNIVERSITY OF PUNE

DETAIL SYLLABUS

FOR

FOURTH YEAR

BACHELOR OF ARCHITECTURE

(Fourth Year B.Arch. & B.Arch. Interior Design)

2008 Course

(to be implemented from 2013-14)

FACULTY OF ENGINEERING

BOARD OF STUDIES IN ARCHITECTURE

FOURTH YEAR B.ARCH.

Sr. No.	Subject Code	Name of Subject	Head	Teaching Scheme			Examination Scheme		
				Lecture Periods	Studio Periods	Total Periods	Term I Marks	Term II Marks	Total Marks
1	413421	Architectural Design IV	SV	2	10	12	300	300	600
2	413422	Adv. Bldg. Tech. & Services	Theory	2	5	7	150	150	300
3	413423	Design & Tech. Elective	SS	1	1	2	50	50	100
4	413424	Quantity Surveying and Est.	SS	1	3	4	50	50	100
5	413425	Quantity Surveying and Est.	Theory				--	100	100
6	413426	Specification Writing	SS	2	--	2	50	50	100
7	413427	Specification Writing	Theory				--	100	100
8	413428	Town Planning	SS	1	3	4	50	50	100
9	413429	Town Planning	Theory				--	100	100
10	413430	Professional Practice	SS	2	--	2	50	50	100
11	413431	Professional Practice	Theory				--	100	100
12	413432	Dissertation & Architectural ProjectPart I	SS	1	2	3	100	100	200
		TOTAL		12	24	36	800	1200	2000

DETAIL SYLLABUS
FOURTH YEAR B.ARCH.

Subject Code : **413421 ARCHITECTURAL DESIGN IV** (Sessional and Viva)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	2	Term I and Term II Sessional (Internal) Sessional (External) Viva	 125 marks (for each term) 125 marks (for each term) 50 marks (for each term)
Studio Periods per week	10	Total sessional marks for both terms	600 marks
Total Contact Periods per week	12	Paper	nil
		Total Marks	600 marks

OBJECTIVE

Introduce students progressively to designing for larger environmental contexts (preferably Indian) and for more complex multifunctional complex of buildings / situations like mass scale residential, institutional, commercial transportation, health-care facilities.

COURSE OUTLINE

A Design of Urban Large Scale / density based housing with approximately minimum 200 tenements of density 120 tenements / hectare. Socio-economic determinates, legislative, economic constraints and technological alternatives shall be studied in detail. Exercises in simulation and conceptual modeling shall be conducted. Application of concepts of community participation, financing and construction planning, computer aided project documentation including working drawings, preliminary estimates, outline specifications and scheduling aimed at comprehensive understanding of the implementation process.

B Design of multifunctional complex of buildings in the urban context. Issues related to the growing problems of urban areas in third world countries and their future developments shall be explored. Emphasis on the design with relation to the contextual environment, traffic and planning controls and impact analysis. An understanding of the architectural implications of such developmental scheme should lead to insight in the formulation of political and administrative policies for the development of the physical environment.

SESSIONAL WORK

- Two assignments for a period of 18 weeks each
- Complete Self-explanatory projects, graphically presented in the form of hard copies / printouts showing comprehensive understanding of the design and implementation process as mentioned in the course outline.
- Second Design project can be given in group of not more than 3 students provided the project is complex enough.

4. Building Construction illustrated by CHING FRANCIS D. K.
5. Elementary Building Construction by MITCHELL
6. Structure and Fabric by EVERET

To study building materials

1. National Building Code and I.S.I. Specifications
2. Materials and Finishes by EVERET
3. A to Z Building Materials in Architecture by HORNBOSTLE

Subject Code : 413423 DESIGN & TECHNOLOGY ELECTIVE (Sessional)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	1	Term I and Term II Sessional (Internal) Sessional (External) Viva	 25 marks (for each term) 25 marks (for each term) nil
Studio Periods per week	1	Total sessional marks for both terms	100 marks
Total Contact Periods per week	2	Paper	nil
		Total Marks	100 marks

AIMS AND OBJECTIVE

The subject of Electives has been introduced in the syllabus with the specific intention of in depth study of a particular subject of a student's liking in greater detail but in the larger context of overall scope of Architecture syllabus at undergraduate level. This will give students an opportunity to develop their skills in a subject they may opt, to make their career in future. Architectural practice is a team effort in which persons of different skills in varied fields are required such as concept developers, technical / working drawing experts, specification writers, quantity surveyors, project managers, contract managers, interior designers, architectural photographers, architectural Journalists, signage and graphic designers, energy consultants, building services consultants, marketing managers etc. In depth study in Electives will prepare the technical base of the students. Since the Architectural Projects in future are going to be very complex, the need of support staff in Architectural Practice will be fulfilled and the student's skills and talent will be effectively used.

The Colleges will have the opportunity to focus upon a particular group of Design and Technology electives depending upon the overall philosophy and mission statement of the College. Individual colleges may offer topics depending upon the availability of experts and resource material.

COURSE OUTLINE TERM I: The probable Design Elective topics are as follows :

1. Interior Design
2. Industrial and Product Design
3. Urban Design
4. Advanced Landscape Design
5. Housing
6. Set Design
7. Special Facilities Planning
8. Sustainable Development and Architecture
9. Barrier free Environment and Design

10. Urban and Rural Planning
11. Infrastructure Planning
12. Advanced Computing in Architecture
13. Climate responsive Architecture
14. Mathematics and Science in Design
15. Theory of Architecture.

DETAILED SYLLABUS

Sustainable Development and Architecture

- Philosophy of Sustainability, management and design aspects
- Management in terms of resource and conservation management, anti-pollution measures, Water / waste management etc.
- Design aspect in terms of designing the structures, such as solar passive, passive, energy efficient, cost-effective, eco friendly designing
- Studying other forms of energy and their applications like Tidal / hydal / wind / biotic.
- Studying environmentally sustainable technologies, construction techniques, and use of materials.
- Studying environment related broader topics and issues like river-beds, environmental pollution etc.

Barrier free environment and design

- Types of disabilities and its implications in Architecture, barrier free environment, access- provisions to facilities and amenities.
- Special design considerations in residential buildings, congregational buildings like auditoriums, theatres, stadias, transport terminals etc, Institutional buildings, outdoor appurtenances, garden – parks etc.
- Study of norms set by Central Government.

Natural Disaster resistant architecture

- Types of disasters like earthquake, fire, floods, cyclones, Tsunami and its effects on Architecture.
- Study of geological structure and its deformation, study of behavior of the structure in such disasters, Measure to counteract destabilizing forces, design aspects and considerations for various types of buildings especially the residential, congregational and institutional buildings.

Urban and Rural Planning

- Introduction to hierarchy of planning – levels and their impact on architecture and architectural profession, understanding the interrelation between urban planning and architecture in terms of FSI, Ground Cover page, density and urban form.
- Comprehensive plan of action for reducing inter-regional and intra-regional disparities. Introduction to Regional plans, Master plans, Zonal plans, town planning schemes and urban design schemes. Special requirements for rural planning.

Infrastructure Planning

- Need for infrastructure planning. Introduction to types and design of infrastructure requirements for large scale architectural projects like drainage, water supply, storm transport facilities, provision of amenities, security systems, remote control systems, telecommunication system etc.

Advanced Computing in Architecture

- Software customization – developing expert system for parametric design using languages such as Visual Basic, Auto Lisp etc. Developing plug-ins for programs like 3D, Studio Max etc.
- Expert software which can either be a part of the main software or a third party software for tasks like working of quantities making atomization for typical drawings such as municipal / centerline plans etc.
- Advanced 3D modeling with the use of animated maps, Special effects plug-ins, advanced lighting, animations etc.

- Exploring the sue of Internet for architectural data exchange and development of web-based solutions for the same (eg. Web page designing).
- Virtual Reality
- Intelligent building and design
- Understanding / Exploring softwares like ideas, Catia ProE

Used for designing complicated structures like the Bibau Museum in Spain or most of the buildings of Frank Gehry.

Special Facilities Planning in Hotels and Hospitals

- Fumigation
- A/c for rooms, lobbies, lounges, OT
- Central gas / suction supply
- Electrification for various spaces and gadgets like defibrillator, CT scan, radiology, MRI etc.
- Water management with incinerator etc.
- Laundry
- Hot water, Boiler, Solar
- Emergency lighting
- Food management / movement / kitchen layouts / sotres / eating places.
- Service floor
- Channeled music

Large span structures like Multiplex, Auditorium, Railway stations, covered studio, airport terminal, hangers etc.

- Structural systems
- Light and ventilation
- Seating
- Crisis planning routes during emergency
- Surface finishes
- Rain water disposal
- Luggage movement
- Parking
- Telecommunication and security systems.

COURSE OUTLINE TERM II The probable Technology Elective topics are as follows :

1. Modular Planning and System Building Construction
2. Non-Conventional Technologies
3. Rural (Vernacular) Architecture.
4. Energy Efficient and Eco Friendly Construction
5. Earthquake Resistant Construction
6. Smart and Intelligent Buildings
7. Building Performance Analysis and Appraisal
8. Structure and Form in Architecture.

Detailed syllabus given above is indicative only. Detail syllabus for all Elective Topics can be finalized, considering the time and marks allotted to the subject, by individual College in consultation with expert faculty and can be implemented after approval by the board of studies.

SUBMISSION DETAILS :

The students are expected to study the selected topic in depth, including the basic principles, and their application in built projects by undertaking case studies, necessary site visits, and collecting all the relevant information to make it an exhaustive study and present it in a well documented format having A-3 / A-4 size papers property filed in a file with a signed certificate from concerned Teacher / Expert stating that the study was carried out under his guidance and countersigned by the Principal / Academic Co-ordinator.

Subject Code : **413424** **QUANTITY SURVEYING & ESTIMATING** (Sessional) Subject Code : **413425** **QUANTITY SURVEYING & ESTIMATING** (Paper)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	1	Term I and Term II Sessional (Internal) Sessional (External) Viva	 25 marks (for each term) 25 marks (for each term) nil
Studio Periods per week	3	Total sessional marks for both terms	100 marks
Total Contact Periods per week	4	Paper	100 marks
		Total Marks	200 marks

OBJECTIVES :

1. To train students in computing quantities of various building items for simple load bearing structures and acquaint them with various types of estimates including mode of measurements as adopted by I. S. 1200.
2. To train students in computing quantities of various building items of R.C.C. framed structure, steel structure, building services such as water supply, sanitation and drainage, electrical installations and acquainting them with rates of various building items.

COURSE OUTLINE

1. Introduction to the definition, aim and scope of "Quantity Computation"
2. Study of different types of estimates
3. Study of mode of measurements as stipulated in I. S. 1200
4. Methods of computing quantities for load bearing types of structure and preparing abstract and bills of quantities including units of measurements.
5. Computing quantities of various building items for r.c.c. framed structure, steel structure and building services such as plumbing and water supply. Preparing of quantities for estimation and tendering purposes.
6. Study of composition of rates of various building items, percentage distribution in the rates of materials, labour, tools and plant, contractor's profits and overheads etc.
7. Analysis of rates of main items of building work with reference to prevalent market rates of materials and labour wages.
8. Preparation of indent of various building materials for r.c.c. framed structure.
9. Measurements of completed items for payment to contractor's interim and final certificate.
10. Introduction to use of computer for computation of quantities of various building items.

SESSIONAL ASSIGNMENTS

Hand written Computation and Bills of Quantities shall be prepared of following :

1. Load bearing structure of total plinth area between 15 to 25 sq. mts.

2. Load bearing structure having total built-u area between 100 to 150 sq. mts. including staircase and toilet block
3. R.C.C. framed structure comprising of Ground and First Floor having total built-up area between 100 to 150 sq. mts. including staircase and toilet block
4. Computing quantities of single storied steel framed factory building or workshop having total built-up area between 100 to 150 sq. mts. including m. s. trusses, purlins and sheet roofing.
5. Working out rate analysis of routine civil items.

RECOMMENDED READING :

1. Professional Practice by R. H. Namavati
2. Estimating and Costing by Rangawala and B. N. Dutta
3. Civil Engineering Contracts and Estimates by B. S. Patil
4. I.S.I. Handbook of measurements of building works.

Subject Code : 413426 SPECIFICATION WRITING (Sessional) 413427 SPECIFICATION WRITING (Paper)			
Teaching Scheme		Examination Scheme	
Lecture Periods per week	2	Term I and Term II Sessional (Internal) Sessional (External) Viva	 25 marks (for each term) 25 marks (for each term) nil
Studio Periods per week	--	Total sessional marks for both terms	100 marks
Total Contact Periods per week	2	Paper	100 marks
		Total Marks	200 marks

OBJECTIVES :

To acquaint students with methodology of writing specifications with reference to building trades, materials, workmanship and performance of different items of work and introducing the students to specifications as an integral part of contract document for building projects.

COURSE OUTLINE

1. Specification as part of contract document, definition, need and importance, its relationship with working drawings, bill of quantities and schedule of rats.
2. Types of specifications, open, closed, restricted, prescriptive, performance based, or combination of above types. Use of manufactures guide etc.
3. Specification writing method to include master list, sectional formats, page formats, general material items, tests, performance, mode of measurements etc.
4. Methodology of writing item wise detailed specifications including methods and forms of writing descriptive notes on materials and workmanship based on working drawings.
5. Collection of catalogues and technical information on various materials, products and specialized items.
6. Preparation of checklist for writing detailed specifications.
7. Study of different building trades, their scope and contents
8. Introduction to writing specifications for building services and checklist for services such as Water Supply, Drainage, Acoustics, Electrical and HVAC installations.
9. Broad outline of specification for other service-installations in building such as
   - Communication systems -- elevators, escalators, telecommunication
   - Accessibility - arrangements for disabled person.
   - Water-proofing. (Cement, bitumen, polymer based).

- External development like roads (flexible and rigid construction) pavements, kerbs, lighting, security – systems, fencing.
- Environment Responsive Systems, Renewable energy applications, efficient fuel-systems.

SESSIONAL ASSIGNMENTS :

1. A journal shall be prepared which will cover notes on the portion mentioned above.
2. Specification writing shall be studied in conjunction with working drawings and the first assignment of Load bearing structure of 15 to 25 sq. mt. Plinth area will be covered by preparing specification for common building materials and trades.
3. Technical literature on various specialized items and manufacture's catalogues shall be collected.

RECOMMENDED READING :

1. Indian Standard Specifications
2. C.P.W.D. Specifications and schedule of rate analysis
3. Specification Writing for Architects and Engineers. By Donald A. Watson.
4. Specification Writing for Architects and Surveyors by Arthur J. Wills

Subject Code : 413428 TOWN PLANNING (Sessional) 413429 TOWN PLANNING (Paper)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	1	Term I and Term II Sessional (Internal) Sessional (External) Viva	 25 marks (for each term) 25 marks (for each term) nil
Studio Periods per week	3	Total sessional marks for both terms	100 marks
Total Contact Periods per week	4	Paper	100 marks
		Total Marks	200 marks

OBJECTIVE

To provide Town Planning inputs to architectural design. It is intended that Town Planning exercise should run parallel to the topics being taken up in architectural design studio. The focus will be on application of Town Planning theories in Town Planning studio.

COURSE OUTLINE

- Introduction to the subject of Town Planning, need of study of Town Planning for an architect.
- Planning Theories – Theories by Le Corbusier, Sir Pattrick Geddes, Sir Ebenezer Howard, C. A. Doxiadis, Clarence Perry and Lewis Mumford.
- Study existing settlement with respect to current theories in planning.
- New towns and cities in India. (Administrative, Tourism Potential Areas, Industrial, Railway Town, Religious Activities, Project Based Areas etc.)
- Introduction to Town Planning Schemes, Development Plan and Regional Plan. Types of surveys (Physical, social and Economical, Aesthetic Surveys) and method of their analysis, policy making and implementation, including finance funding and phasing.
- Housing – National housing policy, social aspects of housing, economics of housing, types of housing based on various aspects and land economics.

- **Introduction to Planning Legislation : Introduction to M.R.T.P. Act of 1966, Land Acquisition Act of 1894, Maharashtra Slum Redevelopment Act, Urban Arts Commission Act, Maharashtra Tree Act, Municipal Act, Urban Ceiling Act.**
- **M.I.D.C. Act, Mhada Act. Development Control Rules for A, B, C Class Towns, and Municipal Corporations. Development Control Rules of Local Municipal Corporations.**
- **Introduction about Professional Bodies in planning profession such as T.C.P.O. and I.T.P.I. etc. Various Planning authorities like D.D.A., CIDCO, MMRDA, and PCNTDA etc. Introduction to Local and Self Government in urban as well as rural areas, introduction to 73rd and 74th amendment to the constitution.**
- **Urban redevelopment and renewal including necessary surveys, Urban traffic and Transportation.**
- **Brief study about role of Urban Design, Landscape Design and Streetscape Design in Town Planning.**

SESSIONAL WORK

- **Subdivision of plots (including conversion of land to Non Agriculture use)**
- **Study report on Town Planners and towns designed by them.**
- **Neighborhood layout.**
- **Redevelopment of existing slum area of the city**
- **Project based on Urban Design and Landscape Design aspect in planning.**
- **Case studies of various types of housing**
- **Visit to any of the planning organizations, builders and promoters**
- **Study of existing Town and Town Planning proposals**
- **Urban renewal scheme**
- **Social and environmental problems of sporadic and unplanned growth of urban and rural areas.**

REFERENCE BOOKS :

1. Urban Pattern – Arthur B. Gallion
2. Design of Cities – Edmund Bacon
3. Site Planning – Kevin Lynch
4. Image of City – Kevin Lynch
5. Town and Country Planning in India – N. K. Gandhi
6. Town Planning – Law, Administration and Professional Practice – G. R. Diwan
7. P.W.D. Handbook of Town Planning
8. Development Plan and Regional Plan Reports
9. Tomorrow – Peaceful Path To Social Reforms – Sir Ebenezer Howard.
10. Basics of Town Planning – J. G. Keskar
11. Townscape – Gorden Cullen
12. Architecture of Town and Cities – Paul D. Spreiregen
13. The New Landscape – Charles Correa
14. Land Acquisition Act of 1894
15. Maharashtra Slum Redevelopment Act
16. Urban Arts Commission Act
17. M.R.T.P. Act of 1966.

TEACHING PLAN :

1. **Out of all the exercise mentioned in sessional work, minimum six exercises are to be completed including following three compulsory exercises**
   - i. **Case studies of various types of housing**
   - ii. **Study of existing Town and Town Planning proposals.**

iii. Project based on Landscape Design, Urban Design aspects in Town Planning.

2. Out of the rest excluding above three exercises any three could be taken up in rotation.
3. The exercises can be group work.

Subject Code : 413430 PROFESSIONAL PRACTICE (Sessional) 413431 PROFESSIONAL PRACTICE (Paper)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	2	Term I and Term II Sessional (Internal) Sessional (External) Viva	 25 marks (for each term) 25 marks (for each term) nil
Studio Periods per week	--	Total sessional marks for both terms	100 marks
Total Contact Periods per week	2	Paper	100 marks
		Total Marks	200 marks

OBJECTIVES :

- To acquaint the student with the various responsibilities of an architect and understand the technicality of the profession.
- To acquaint students with avenues of professional services as well as with relevant scope, mode and conduct of architectural practice.
- To acquaint students with documentation and procedures for execution of building works/projects as well as with managerial aspects of the same.

COURSE OUTLINE

TERM I

- Nature of profession, difference between trade, business and profession,
- Introduction to the importance of professional organizations like I.I.A., COA & their membership.
- Architects office set up and administration, correspondence, letters, reports, taking instruction from the client, its interpretation, design process and its stages, preparation of drawing, filing, standardization and documentation.
- Office Organization, Proprietorship, Partnership, Company etc; Registration as Firm / Company etc.
- Accounts systems and Taxation.
- Detailed study of scope of comprehensive architectural services as framed under Architect's Act 1972.
- Code of Conduct, scale of professional fees as per rules and regulations framed by the Council of Architecture.
- Architectural Competition – Types, procedures, as per guidelines of the Council of Architecture.
- Introduction to valuation of properties, its purpose and different methods of valuation as adopted by different organizations / bodies. Dilapidations and Easements.

COURSE OUTLINE

TERM II

- Tenders – Types and procedures, selection of contractor for building work / project, pre-qualification of contractors, letter of Intent / "Works-order" to the Contractor.
- Articles of Agreement and Conditions of Contract. (Study of conditions stipulated by I.I.A., Price Escalation).
- Site - visit reports and instructions.

- Introduction to architectural supervision, quality control and monitoring of projects, with the help of Bat-Charts / CPM / Pert-Charts.
- Introduction to 'Arbitration'.

TERM – WORK

Term-Work to comprise of the following exercise/s
Minimum three hand-written tutorials on all aspects covered in the 'Course-outline' above.

RECOMMENDED READINGS :

(1) Private Architectural practice – by Manrice E. Tayler
(2) Architectural Practice and Procedure – by Hamilton H. Turner.
(3) Professional Practice in India – by Madhav G. Deobhakta
(4) Professional Practice – by R. H. Namavati
(5) Architect's Act 1972
(6) Council of Architecture and I.I.A. Publications relevant to the 'Course-outline above'.

Subject Code : 413432 DISSERTATION AND ARCHITECTURAL PROJECT (PART I) (Sessional)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	1	Term I and Term II Sessional (Internal) Sessional (External) Viva	50 marks (for each term) 50 marks (for each term) nil
Studio Periods per week	2	Total sessional marks for both terms	200 marks
Total Contact Periods per week	3	Paper	nil
		Total Marks	200 marks

AIM :

The subject of Dissertation is included in the syllabus with the intention of introducing the students to the process of conducting systematic research in the subject of their choice but in the overall Architectural Context and acquainting them with the research methodologies adopted while carrying out research in a particular subject. The students are expected to get an orientation in Technical Writing which is an emerging field for making a career. The Dissertation is expected to impart initial training at undergraduate level so as to prepare them for more advanced research at postgraduate level.

The topic of research should relate to the "Architectural Project" that the student intends to undertake. This will help the student to extend the findings of the research to the architectural design.

COURSE OBJECTIVES

1. To introduce the students to research in architecture and its significance in the architectural practice.
2. To introduce the students the types of research in architecture and the process of formulating a research plan.
3. To introduce the students to various methods of research in architecture, their relative advantages and disadvantages and their applications.

UNIVERSITY OF PUNE

DETAIL SYLLABUS

FOR

FIFTH YEAR

BACHELOR OF ARCHITECTURE

(Fifth Year B.Arch. & B. Arch. (ID)

2008 COURSE

(to be implemented from 2014-15)

FACULTY OF ENGINEERING

BOARD OF STUDIES IN ARCHITECTURE

FIFTH YEAR B.ARCH.

Sr. No.	Subject Code	Name of Subject	Head	Teaching Scheme			Examination Scheme		
				Lecture Periods	Studio Periods	Total Periods	Term I Marks	Term II Marks	Total Marks
1	513421	Practical Training	SV	--	--	--	100	--	100
2	513422	Architectural Project Part II	SV	2	10	12	--	400	400
3	513423	Management Elective	SS	1	1	2	--	50	50
4	513424	Allied Elective	SS	1	1	2	--	50	50
		TOTAL		4	12	16	100	500	600

FIFTH YEAR B.ARCH.

DETAIL SYLLABUS

Subject Code : **513421 PRACTICAL TRAINING** (Sessional and Viva)			
Teaching Scheme		**Examination Scheme**	
Lecture Periods per week	--	Term I Only	
		Sessional (Internal)	25 marks (for Term I)
Studio Periods per week	--	Sessional (External)	25 marks (for Term I)
		Viva	50 marks (for Term I)
Total Contact Periods per week	--	Total sessional marks for Term I Only	100 marks
		Paper	nil
		Total Marks	100 marks

AIMS AND OBJECTIVE

The aim of introducing one complete term for the students to undergo practical training is to expose them to the world of Professional Practice and get hands on training under the guidance of a professional who is actively engaged in Architectural Practice. It sill give the students first hand experience of dealing with live projects of various nature and also the site experience to see how the projects get built on the site. The students will also be able to learn about the Office Management, Project Management, Contract Management, Human Resource Management, new techniques of construction, advance building services, landscape and environmental designing etc. This rich experience is expected to enhance the students' ability to think comprehensively and better prepare them for undertaking the Architectural Project work in the final semester.

COURSE OUTLINE

1 The term of Practical Training will commence immediately after the examination of Fourth Year and will continue till the end of IX SEM or thereabout. The students are expected to work in the organization where architecture and its related practice are carried out and under the guidance of the professional who is registered with Council of Architecture. In case the student opts to go abroad he / she will work under the guidance of the professional who is registered with the council / any other organization controlling the profession of Architecture in the respective country. The students will decide very carefully about their placement venue as it is expected that they learn best ethics in Professional Practice and which produces quality architecture. The placement cell of each College will extend all possible help to the students in this regard.

2 The total duration of the training will be minimum 18 working weeks / 90 working days excluding the holidays.

SUBMISSION

1. The students shall prepare an exhaustive Training Report separately or in a formal Log Book issued to him by the College as per the College policy, week by week, which will cover detailed record of the work done in the office, site visit reports, interviews with clients and any other agency, interaction with principal architect etc. The professional with the seal of the organization, under whose guidance the student worked, will sign the report and also his reflection about the student's work and his overall approach and attitude towards the office work.

2. The students shall produce the above mentioned Training Report and the Log Book at the time of viva-voce examination. He will also produce few drawings with the permission of his employer to indicate the kind of work he has carried out.

SESSIONAL ASSESSMENT AND VIVA-VOCE: The sessional and viva assessment shall be done jointly by the Internal and External Examiners and the allocation of marks shall be as stipulated in the syllabus

Subject Code : **513422 ARCHITECTURAL PROJECT (PART II)** (Sessional and Viva)

Teaching Scheme		Examination Scheme	
Lecture Periods per week	2	Term II	
		Sessional (Internal)	150 marks (for Term II)
Studio Periods per week	10	Sessional (External)	150 marks (for Term II)
		Viva	100 marks
		Total sessional marks for both terms	400 marks
Total Contact Periods per week	12	Paper	nil
		Total Marks	400 marks

OBJECTIVE

To expose and to provide opportunity to the students to extend the findings of the research carried out under the subject of "Dissertation" to the architectural project and exercise full-fledged large scale Architectural Design with holistic approach including site investigation, programme formulation, and design demonstration.

COURSE OUTLINE

The architectural project(Part II) shall consist of : **Design Demonstration i.e.** Formulation of Design Programme, Site investigation, and selection, and culmination in a concrete design demonstration.

SUBMISSION WORK :

Sessional work for the Part II of Architectural Project shall consist of a **Design Solution :** Graphically presented Design solution in from of sufficient number of architectural drawings, (manually drawn/computerized) with models etc. Since the Architectural Project is the culmination of five years of learning in various aspects of Architecture, it is expected that students demonstrates an ability of holistic and comprehensive thinking in the areas of ,

- Site Planning
- Structural considerations
- Interior space planning
- Environmental planning
- Building Services
- Climate responsive, Energy efficient and exhibiting qualities of sustainable architecture.
- Architectural Detailing.

The portfolio will consist of drawings sufficiently in detail to demonstrate the consideration given to the above-mentioned attributes of a good quality Architectural Project. Emphasis shall be given to the preparation of self-explanatory drawings in great detail, as if in any Architectural Competition.

SESSIONAL ASSESSMENT

The Internal assessment of "Architectural Project" shall be carried out **STAGE WISE** as decided by the individual College.

The final assessment in the examination shall be done by both Internal and External Examiner / s in which the student will display his work on the space allotted to him and explain his work and answer all the queries raised by the Examiners.

The Time allotted per student shall be minimum 30 minutes to maximum 45 minutes. The Internal stage wise making shall be done out of 150 marks and External marking shall be done jointly by the External Examiner/s out of 150 marks. 100 marks shall be reserved for oral presentation to be assessed jointly by both Internal and External Examiners.

The individual college will make available Guides specializing in various disciplines who will make themselves available to the students in College premises on pre appointed days and time.

Individual Guide will guide maximum of **FIVE STUDENTS** of a particular College in which he is working as a Guide. Total number of students from all the Colleges shall not exceed **EIGHT** at any one time.

In order to qualify to work as a Guide the teacher / professional must possess minimum of **FIVE YEARS** of teaching / professional experience. Efforts shall be made to appoint guides who have high academic qualification, having rich Professional experience and contributed in a major way to the field of Architectural Education / Profession.

RECOMMENDED READING

All books relevant to the topic of the architectural project.

Subject Code : **513423 MANAGEMENT ELECTIVE** (Sessional)

Teaching Scheme		Examination Scheme	
Lecture Periods per week	1	Term II	25 marks (for Term II)
		Sessional (Internal)	
Studio Periods per week	1	Sessional (External)	25 marks (for Term II)
		Viva	nil
		Total sessional marks for both terms	50 marks
Total Contact Periods per week	2	Paper	nil
		Total Marks	50 marks

AIMS AND OBJECTIVE

The subject of Electives has been introduced in syllabus with specific intention of in depth study of a particular subject of student's liking in greater detail but in the larger context of overall scope of Architecture syllabus at undergraduate level. This will give students an opportunity to develop their skills in a subject they may opt, to make their career in future. Architectural practice is a team effort in which persons of different skills in varied fields are required such as Concept Developers, Technical / Working Drawing Experts, Specification Writers, Quantity Surveyors, Project Managers, Contract Managers, Interior Designers, Architectural Photographers, Architectural Journalists, Signage and Graphic Designers, Energy Consultants, Building Services Consultants, Making Managers etc. In depth study in Electives will prepare the technical base of the students. Since the Architectural Projects in future are going to be very complex, the vital need of support staff in Architectural Practice will be fulfilled and the student's skills and talent will be effectively used.

COURSE OUTLINE

Individual College may offer topics depending upon the availability of experts and resource material. The Colleges will have the opportunity to focus on particular group of topics according to overall philosophy and mission statement of the College. The probable management elective topics are as follows :

1. Project Management.
2. Energy management.
3. Architectural legalities.
4. Architect's office management.
5. Disaster management.
6. Risk management.
7. Entrepreneurship Development and Total Quality management.
8. Information Technology in Architectural profession.
9. Financial Management and Budgeting

SUBMISSION DETAILS :

The students are expected to study the selected topic in depth, including the basic principles, and their application in built projects by undertaking case studies, necessary site visits, and collecting all the relevant information to make it an exhaustive study and present it in a well documented format having A-3 / A-4 size papers properly filed with a signed certificate from concerned Teacher / Expert stating that the study was carried out under his guidance and countersigned by the Principal / Academic Co-ordinator.

Subject Code : **513423 ALLIED ELECTIVE** (Sessional)

Teaching Scheme		Examination Scheme	
Lecture Periods per week	1	Term II	
		Sessional (Internal)	25 marks (for Term II)
Studio Periods per week	1	Sessional (External)	25 marks (for Term II)
		Viva	nil
		Total sessional marks for both terms	50 marks
Total Contact Periods per week	2	Paper	nil
		Total Marks	50 marks

AIMS AND OBJECTIVE

The subject of Electives has been introduced in syllabus with specific intention of in depth study of a particular subject of student's liking in greater detail but in the larger context of overall scope of Architecture syllabus at undergraduate level. This will give students an opportunity to develop their skills in a subject they may opt, to make their career in future. Architectural practice is a team effort in which persons of different skills in varied fields are required such as Concept Developers, Technical / Working Drawing Experts, Specification Writers, Quantity Surveyors, Project Managers, Contract Managers, Interior Designers, Architectural Photographers, Architectural Journalists, Signage and Graphic Designers, Energy Consultants, Building Services Consultants, Making Managers etc. In depth study in Electives will prepare the technical base of the students. Since the Architectural Projects in future are going to be very complex, the vital need of support staff in Architectural Practice will be fulfilled and the student's skills and talent will be effectively used.

COURSE OUTLINE

Following is a list of topics from which individual Colleges may offer few topics depending upon the availability of experts and resource material. The Colleges will have the opportunity to focus on particular group of Electives such as Design, Technology, Management or Allied group, according to overall philosophy and mission statement of the College. The probable Allied Elective topics are as follows :

1. Visual Communication
2. Fine Arts and Graphics
3. Architectural Journalism
4. Advanced Computer Graphics
5. Architectural Conservation
6. Photography
7. Applied Psychology in Arch.
8. Applied Sociology in Arch.
9. Housing Finance and Building Economics

SUBMISSION DETAILS :

The students are expected to study the selected topic in depth, including the basic principles, and their application in built projects by undertaking case studies, necessary site visits, and collecting all the relevant information to make it an exhaustive study and present it in a well documented format having A-3 / A-4 size papers properly filed with a signed certificate from concerned Teacher / Expert stating that the study was carried out under his guidance and countersigned by the Principal / Academic Co-ordinator.

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1.3.1

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

C) List of topics in Architectural Design Project course in B. Arch Programme which addresses crosscutting issue (AY-2020-21 to AY- 2016-17)

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Criteria 1.3.1:

The Institution integrates various crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum. The fifth year students are also encouraged to research on the above issues as a part of Architectural Design Project [5201571(SV) 2015 Syllabus] and Architectural Project Part II [513422 (SV) 2008 Syllabus].

Following students of Fifth year Architecture, worked on various crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability under Architectural Design Project.

Academic Year: 2020-21 **Semester:** II

Architectural Design Project [5201571(SV) 2015 Syllabus]

Sr No	Thesis Topic	Name of Student	Issue Dealtwith
01	Retreat for senior citizens- Redefining old age homes	Ahire Shweta	Human Values
02	Wellness Centre - At Vaitarna	Ahire Swapnil	Environment & Sustainability
03	Kalpa Rakshati - Research & Training centre for Sustainable built environment	Amrutkar Vinod	Environment & Sustainability
04	Cultural Centre at Nashik	Bachhav Aparna	Human Values
05	Ecotourism Hub - at Bhandardara	Benke Karan	Environment & Sustainability
06	Residential School at Mahirawani, Nashik	Bhosale Sayee	Environment & Sustainability
07	Campus for Orphans, Nashik	Boraste Neela	Human Values
08	Surfacing from the shadows - Mental Health Rehabilitation centre	Chadha Jasleenkaur	Human Values
09	Post retirement village at Nashik.	Chandiwal Astha	Human Values
10	Catalyst for Building resilience – case of recurring rehabilitation at Barvi dam project affected community	Choudhary Himani	Human Values
11	Learning Centre for visually impaired	Chungade Shefali	Human Values
12	Re-humanizing Healthcare Centre, Nashik	Dandagaval Gayatri	Human Values
13	Community development Centre for Tribals, Kharekhuran, Palghar	Dengale Rasika	Human Values
14	Centre for Nature & Wildlife conservation	Ghatge Darshan	Environment & Sustainability

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Sr. No.	Thesis Topic	Name of Student	Issue Dealt with
15	Conservation of fort & proposed urban interventions: Suvarnadurga Dapoli	Namrata Hire	Environment & Sustainability
16	Spaces for Sacred experiance at Saptashringi gad, Vani	Jain Snehada	Human Values
17	Youth skill development and training centre at Dugaon, Nashik	Kale Rutuja	Human Values
18	Heritage Interpretation Centre	Kamble Swati	Human Values
19	Eco Resort at Igatpuri	Kapote Shraddha	Environment & Sustainability
20	Dementia care campus : A walkdown memory lane	Kasliwal Saloni	Human Values
21	Urban Haat - Permanent exhibition Centre for Artisans of Maharashtra	Kawade Pratiksha	Human Values
22	Institute & development centre for street children, Nashik	Kulthe Gauri	Human Values
23	Nature Therapy Centre at Toranmal	Lalwani Sonali	Environment & Sustainability
24	Cultural Hub	Malpani Shrirang	Human Values
25	De addiction Centre	Mekhe Snigdha	Human Values
26	Botanical research institute and learning centre	Miyaji Murtaza	Environment & Sustainabilit y
27	Eco Resort	Pagar Sakshee	Environment & Sustainability
28	Youth community center. Pune	Pardeshi Sahil	Human Values
29	School for Alternative Education	Patil Nehal	Human Values
30	Rain museum research & training center for water conservation & management.	Patil Shreerang	Environment & Sustainability
31	Museum for contemporary art	Patil Tejashree	Human Values
32	Resort Goa	Pawar Ankita	Environment & Sustainability
33	Urban interactive Hub on waterfront at Chandsi, Nashik	Pise Maithili	Environment & Sustainability
34	Rehabilitation farm for Schizophrenia	Raiya Ronak	Human Values
35	Weaver's village at Kerala	Sanap Aarti	Human Values
36	The new religious testaments at Delhi	Saranjame Kaustubh	Human Values

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Sr No	Thesis Topic	Name of Student	Issue Dealt with
37	Skill Development Centre, Nashik	Selvam Chinmay	Human Values
38	Wild Life museum, Nashik	Shewale Amruta	Environment & Sustainability
39	Heritage Resort, adaptive reuse Vijaydurga	Shinde Manjit	Environment & Sustainability
40	Open prison at Dahegaon, Nashik	Sonawane Tejas	Human Values
41	Heritage Resort Jaipur	Thakare Neha	Environment & Sustainability
42	Arts & Crafts hub, Nashik under MSSIDC	Thakker Kejal	Human Values
43	Juvenile correctional Centre, NaviMumbai	Tolani Twinkal	Human Values
44	Redefining the meaning of Cemetery, Kottayam (Kerala)	Vairagar Ashish	Human Values

Academic Year: 2019-20 **Semester:** II

Architectural Design Project [5201571(SV) 2015 Syllabus]

Sr No	Thesis Topic	Name of Student	Issue Dealt with
01	Community Centre for Capacity Building	Aher Pooja	Human Values
02	Tribal development centre	Ambre Nikita	Human Values
03	Child and Mother Government Hospital	Bedse Dipti	Gender
04	Forest Resort	Bhalerav Agraj	Environment & Sustainability
05	Centre for 'Art of Living'	Bhosale Khushabu	Human Values
06	Multifaith Crematorium 7 Cemetery	Chand Yash	Human Values
07	Autism and Architecture	Gosavi Ritu	Human Values
08	Interactive Architecture in Marine Environment	Jadhav Raj	Environment & Sustainability
09	Museum for Forest Research	Jadhav Tejas	Environment & Sustainability
10	Youth Centre	Javeri Siddhi	Human Values
11	Meditation Center	Mali Roshni	Human Values
12	Upliftment Centre for Women	Nagbhide Shraddha	Gender
13	Juvenile Detention Centre	Nikumbh Shreya	Human Values
14	Energy Efficient Office Building	Paradeshi Kajal	Environment & Sustainability

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Sr No	Thesis Topic	Name of Student	Issue Dealt with
15	Vertical Farming	Patil Pooja	Environment & Sustainability
16	Beach Resort	Patil Pushkar	Environment & Sustainability
17	Women's Opportunity Centre	Patil Yogeshwar	Gender
18	"WE" Communal Living	Shelke Omkar	Human Values
19	Reincarnation Centre	Sutar Diksha	Human Values
20	Beach Resort	Tekale Vinay	Environment & Sustainability

Academic Year: 2018-19 **Semester:** II

Architectural Project Part II [513422 (SV) 2008 Syllabus]

Sr No	Thesis Topic	Name of Student	Issue Dealt with
01	Cultural Amalgamation in Jammu & Kashmir	Aher Mandar	Human Values
02	Crafts Revitalization Centre	Boraste Vaishnavi	Human Values
03	Cultural Heritage Review	Madhusudan Chandak	Human Values
04	Revival of Essence "Case of Mumbai Chawls"	Hande Omkar	Human Values
05	Drugs Addicted Rehabilitation Centre	Patil Ishwari	Human Values
06	Tribal Resource Centre	GosaviAnita	Human Values
07	Eco-Tourism	Dolase Shreekrishna	Environment & Sustainability
08	Agro-Tourism	Mehta Minal	Environment & Sustainability
09	Beach Resort	Mevada Vikas	Environment & Sustainability
10	Biomimicry - Nature Inspired Design	Patel Virat	Environment & Sustainability
11	Generating city space through Lakefront development	Patil Divya	Environment & Sustainability
12	Agricultural Hub	Wagh Atul	Environment & Sustainability
13	Eco-Tourism	Gaikhe Nikita	Environment & Sustainability
14	Women Empowerment Museum	Jadhav Snehal	Gender

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Academic Year: 2017-18 **Semester:** II

Architectural Project Part II [513422 (SV) 2008 Syllabus]

Sr. No.	Thesis Topic	Name of Student	Issue Dealt with
01	Youth Detention Center	Karwa Pavitra	Human Values
02	Meditation Center	Sanap Komal	Human Values
03	Leisure for Senior Citizens	More Gayatri	Human Values
04	Healing Spaces for Mentally Challenged Child	Patil Pooja	Human Values
05	Slum Rehabilitation	Pednekar Gaurav	Human Values
06	Spatial values in Religious spaces	Pujari Pranav	Human Values
07	Meditation Center	Tarwala Swarnalata	Human Values
08	Preserving Folk Art through Architecture	Sali Yogita	Human Values
09	Application of Biomimicry for Solid Waste Treatment Plants	Avhad Kishor	Environment & Sustainability
10	River Front Development	Deshmukh Reshma	Environment & Sustainability
11	Underground Architecture	Kadam Anisha	Environment & Sustainability
12	Ladakh & Ladakhi	Mahadik Kapil	Environment & Sustainability
13	Adaptive Reuse	Ghode Rasika	Environment & Sustainability
14	Heritage Tourism Development	Khajone Shamali	Environment & Sustainability
15	Female Empowerment Mentor	Mukharjee Sagarika	Gender

Academic Year: 2016-17 **Semester:** II

Architectural Project Part II [513422 (SV) 2008 Syllabus]

Sr. No	Thesis Topic	Name of Student	Issue Dealt with
01	Natural Environment for Development of Child	Malwatkar Aishwarya	Professional Ethics
02	Crematorium	Panjawani Hitesh	Human Values
03	Relation of Psychology with The Architecture	Shah Sahilkumar	Human Values

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Sr. No	Thesis Topic	Name of Student	Issue Dealt with
04	Community & Development Center for Villas	Rahane Surabhi	Human Values
05	Tribal Development Center	Ahire kunal	Environment & Sustainability
06	Sustainable and Vernacular Architecture	Aware Pradnya	Environment & Sustainability
07	Bio Architecture(Ideas responding to Natural Forms & System)	Bawaskar Nikhil	Environment & Sustainability
08	Center for biodiversity conservation and research	Bhide Vedika	Environment & Sustainability
09	Activation of Waterfront Promenade	Birari Ankit	Environment & Sustainability
10	Inspiring Nature through Spaces	Chaubal Shamal	Environment & Sustainability
11	The Journey of Sustainability - Indian Vernacular and Beyond	Giddia Sejal	Environment & Sustainability
12	Wild Life in Architecture (Inquiry on Inter-relationships between Arch. & Wild Life)	Gujrathi Vaidehi	Environment & Sustainability
13	Integration of Water and Architecture	Gurav Jagruti	Environment & Sustainability
14	Bio Diversity in Urban Architecture	Jadhav Pratik	Environment & Sustainability
15	Hill Architecture	Joshi Alhad	Environment & Sustainability
16	Architecture Inspired from Nature	Joshi Nikita	Environment & Sustainability
17	Sustainable Construction Techniques & Materials for High-Rise Buildings	Kulkarni Apoorva	Environment & Sustainability
18	Eco-Tourism	Pingle Sayli	Environment & Sustainability
19	Sustainable Tall Buildings	Sarvaiya Mahendra	Environment & Sustainability

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1.3.1

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

D) List of events/ Programme/ workshops / seminars etc ... organised by institute in B. Arch programme which addresses crosscutting issues (AY-2020-21 to AY- 2016-17)

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1.3.1 (D) List of events/ Programme/workshops/seminars etc.. organised by institute in B. Arch programme which addresses crosscutting issues (from 2016-17 to 2020- 21)

Academic Year	List Topic of program/Event/ workshop/seminar etc.. Organised by institute	Crosscutting Issues
2020- 21		
	Ar. Vikram Hundekar Campus Design	Professional Ethics
	Ar.Kshitij Dhande, Nashik Own Residence	Professional Ethics
	Ar. Mahesh Bangad, Pune Aspects of Residence Design	Professional Ethics
	Mr. Gautam Baliga Air Conditioning Design for Architects	Professional Ethics
	Ar. Shruti Humane, Pune,Advanced Landscape Electives	Environment & Sustainability
	Er. Sachin Save HVAC system and Air Distribution	Professional Ethics
	Lecture on design aspects of commercial buildings By Priya Shyam Parmeshwaram	Professional Ethics
	Building Services : Ar. Rahul Londhe Water Supply and Drainage Layout	Professional Ethics
	Urban Studies Smart city Competition Ar.Rohit Gadiya, Pune & .Ar. Meghana Patel, Pune	Environment & Sustainability
	Ar. Tushar Kothavade Office Interiors	Professional Ethics
	Lecture series on Hospital design Ar. Dinesh Bhamre, Mrs.. Neelangi Sardeshpande, Ar. Milind Kulkarni	Human Values
	Lecture series with Professionals Ar. Mili Majumdar – Resilient and sustainable Planning	Environment & Sustainability
	Lecture on Code of Conduct by KTHM faculty Mr. Wankhede	Professional Ethics
	Namami Goda Foundation (Functional MOU)	Environment & Sustainability
	Generation Equality - Adv Khairnar	Gender
	Living Equality – Madhu Chougaonkar	Gender
	Environmental Awareness programme at Fashicha dongar, Nashik	Environment & Sustainability
	Guest lecture series on Constitution Awareness	Professional Ethics
	Code of Conduct programme	Professional Ethics
2019- 20		

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	Seminar on India's first leadership talk	Professional Ethics
	Seminar on CPR health programe	Human Values
	Seminar Programme on health and sanitation	Human Values
	Seminar on Gender equality	Gender
	Nirbhaya Silent March	Gender
	No violence against women	Gender
	Visit to Bharosa kaksh	
2018- 19		
	Seminar on womens health, skin & hair care	Gender
	Workshop on universal design	Environment & Sustainability
	Socio economic study of garland makers & garland making workshop	Human Values
	Workshop on Parametric explorations with Bamboo	Environment & Sustainability
	Workshop on Geodesic dome with Bamboo	Environment & Sustainability
	Gender equality awareness	Gender
2017- 18		
	Streets for people - workshop by ITDP	Human Values
	Sustainable Design Workshop by GRIHA	Environment & Sustainability
	Seminar on Womens health and higine	Gender
	Bamboo workshop	Environment & Sustainability
2016- 17		
	Workshop on climate responsive architecture	Environment & Sustainability
	Housing - The quality of environment , A seminar by Ar.Prasanna desai	Professional Ethics
	Workshop on effective communication and presentation	Professional Ethics
	Seminar on Sexual harrasment at workplace	Gender
	Workshop on Landscape in inscapes	Environment & Sustainability
	State Level Conference On Urban Regeneration – A New Perspective To Heritage Conservation	Environment & Sustainability

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