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Bharati Vidyapeeth
**COLLEGE OF ARCHITECTURE**
Affiliated to the University of Mumbai

Celebrating 50 and Beyond

Founder :
Dr. Patangrao Kadam
M.A.,L.L.B.,Ph.D.

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Sec.7, C. B. D. Belapur, Navi Mumbai- 400 614 - India

Principal
**Prof. Satish Dhale**
(G.D.DID, P.G.DID, IIA, M.Sc.ID, M.Arch)

Ref. No. : BV / COA / N.M./ Date :

# CRITERIA 2

# TEACHING LEARNING & EVALUATION

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## 2.6

## Student Performance & Learning Outcome

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## *2.6.1 - Teachers and students are aware of the stated program and Course Outcomes of the programs offered by the institution*

## Table of Contents



Bharati Vidyapeeth College Of Architecture Navi Mumbai

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## 1. Description

Bharati Vidyapeeth offers Bachler of Architecture, Master of Architecture and Bachelor of Vocational (Interior Design) courses under Mumbai University. The B.Arch course started in the year 1992-1993 and B.Voc in the year 2018-2019. The permission for M.Arch course received in 2022-2023, and the course actually started in 2023-2024. The institute follows rules, regulations and the syllabus designed by Mumbai University. The institute conducts examinations of B.Arch from semester I to Semester IX. semester VI and semester X examination are conducted by University. For B.Voc. Courses semester I to IV are conducted by institute and semester V and semester VI is conducted by University. M.Arch Course semester II and semester IV are conducted by University and semester I and semester III by institute. The course outcomes are prepared in the line with the syllabus of Mumbai University and the set Program Outcomes (POs) and Program Specific Outcomes (PSOs). The university examination scheme id credit based hence for one credit two course outcomes are prepared for all the subjects.

## 2. BVCOA Vision & Mission

### Vision

To have a transformative impact on society through dynamic education - Research, Innovation, and Entrepreneurship.

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**Mission of the Institution**

- To provide an inclusive border less access to higher education and vocational education based on merit.
- To offer professional and vocational education programs to meet the changing and diverse needs of society in a global context.
- To promote student-centric approach, encourage progressive thinking and foster an environment that allows students to reach their full potential.
- To promote innovative quality research in diverse areas of development and engage in application of knowledge for community development.
- To promote extensive use of Information and Communication technology for enrichment of teaching learning and effective governance.
- To keep focus on quality aspects of the academic, administrative processes and various activities.
- To adapt to the latest technologies and modern approaches to teaching and learning.
- To develop international and national potential knowledge partnerships.
- To promote sustainable practices and collaborate with industry partners to maintain professional standards.

## 3. Program Outcomes (POs)

1. **Knowledge:** Inquiry based mediated experiential learning through rigorous understanding about academic knowledge domains such as Arts, Technology, Science and Environment / Sustainability.
2. **Problem Investigation & Analysis:** The reflective learning orients the students towards questioning the knowledge obtained and develop skills to chisel their problem-solving capacity.



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3. **Design Development:** Nurturing students' ability to translate concepts through creativity and technological aspects into tangible and intangible forms.
4. **Modern tools:** Imparting education through advanced tools which sensitize the students to strengthen their visualisation skills and imagine the outcome before reality.
5. **Society & Ethics:** The education and knowledge imparted in the institution instils professional competencies and ethical values in students to provide them the appropriate skills and confidence to engage them in positions of social responsibilities as well as creating a sustainable society with inclusive approach of design respecting the Indian ethos and cultural values.
6. **Environment & Sustainability:** Students are trained to engage in social outreach initiatives to implement best practices in environment conservation and sustainability through employing knowledge and skills.
7. **Teamwork:** The initiative of learning by exploring and case-based learning equips the students to work collaboratively to achieve personal and professional goals.
8. **Communication:** The role of an architect today is to communicate effectively his/ her ideas to benefit the society at large and the institution aims at imparting this capacity.
9. **Lifelong Learning:** The concept of integration of diverse perspectives connecting local to global realities through the various social outreach initiatives of the institution.

## 4. Program Specific Outcomes (PSOs)

1. **PSO1:** Analysing, evaluating, and synthesizing ideas and information gathered through design thinking and application into conceptualisation of design modules by consideration of alternative perspectives.
2. **PSO2:** The knowledge and ability to apply a design decision-making through different aspects from concerned stake holders and appropriate technology.



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3. **PSO3:** Establish application of knowledge through applied research by raising clear and precise questions and considering diverse points of view, to reach well-reasoned conclusions and evaluate options against relevant design criteria, building standards, and program requirements.

## 5. Course Content and Structure

The objectives that reflect in the Architecture course as per Mumbai University are as follow.

- Architecture is discipline/meta discipline, not merely an empirical process.
- Critical thinking: The students must be given the tools to critically evaluate the world he/she lives in.
- The students need to be refined as more than a learner, but a producer of knowledge.
- In the spreading world of information technology and easily available knowledge, the teacher needs to be redefined as more than a giver of information, but one who can show the student how design is a critical process.
- Diversity must be appreciated and encouraged. Learning can be simultaneous and non-linear.
- A students needs to inculcate the ability to question, ability to redefine technology, ability to question the relevance of technology.
- Being informed by disciplines out of other than architecture, non-technology subjects, particularly those from the liberal arts and the humanities may come into foreground.
- Emphasis should be on theory also, not only on practise.
- Encourage research and give direction to research.

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## Bachelor of Architecture (B.Arch.)

Scheme of Teaching and Examinations

**Semester 1**

| | Semester 1<br>Exam conducted by individual colleges | Teaching Scheme | | Credits | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 101 | Architectural Design Studio | | 4 | | 4 | 4 |
| 102 | Allied Design Studio | | 4 | | 4 | 4 |
| 103 | Architectural Building Construction & Materials | 2 | 3 | 2 | 3 | 5 |
| 104 | Theory & Design of Structures | 3 | | 3 | | 3 |
| 105 | Humanities | 3 | | 3 | | 3 |
| 106 | Environmental Studies | 2 | | 2 | | 2 |
| 107 | Architectural Representation & Detailing | | 3+3 | | 6 | 6 |
| 120 | College Projects | | 6 | | 6 | 6 |
| 121 | Elective | | 3 | | 3 | 3 |
| | **Total** | **10** | **26** | **10** | **26** | **36** |

**Semester 2**

| | Semester 2<br>Exam conducted by individual colleges | Teaching Scheme | | Credits | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 201 | Architectural Design Studio | | 4 | | 4 | 4 |
| 202 | Allied Design Studio | | 4 | | 4 | 4 |
| 203 | Architectural Building Construction & Materials | 2 | 3 | 2 | 3 | 5 |
| 204 | Theory & Design of Structures | 3 | | 3 | | 3 |
| 205 | Humanities | 3 | | 3 | | 3 |
| 206 | Environmental Studies | 2 | | 2 | | 2 |



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| | | | | | | |
|---|---|---|---|---|---|---|
| 207 | Architectural Representation & Detailing | | 3+3 | | 6 | 6 |
| 220 | College Projects | | 6 | | 6 | 6 |
| 221 | Elective | | 3 | | 3 | 3 |
| | **Total** | **10** | **26** | **10** | **26** | **36** |

**Semester 3**

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



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**Semester 4**

| | Semester 4 Exam conducted by individual colleges | Teaching Scheme | | Credits | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 401 | Architectural Design Studio | | 8 | | 8 | 8 |
| 402 | Allied Design Studio | | 3 | | 3 | 3 |
| 403 | Architectural Building Construction & Materials | 3 | 3 classes Technology Studio | 3 | 1 | 4 |
| 404 | Theory & Design of Structures | 2 | | 2 | 1 | 3 |
| 408 | Architectural Building Services | 2 | | 2 | 1 | 3 |
| 405 | Humanities | 3 | | 3 | | 3 |
| 407 | Architectural Representation & Detailing | 2 | 2 | 2 | 2 | 4 |
| 409 | Architectural Theory | 2 | | | | 2 |
| 420 | College Projects | | 3 | | 3 | 3 |
| 421 | Elective | | 3 | | 3 | 3 |
| | **Total** | **14** | **22** | **14** | **22** | **36** |

**Semester 5**

| | Semester 5 Exam conducted by individual colleges | Teaching Scheme | | Credits | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 501 | Architectural Design Studio | | 8 | | 8 | 8 |
| 502 | Allied Design Studio | | 3 | | 3 | 3 |
| 503 | Architectural Building Construction & Materials | 3 | 3 classes Technology Studio | 3 | 1 | 4 |
| 504 | Theory & Design of Structures | 2 | | 2 | 1 | 3 |
| 508 | Architectural Building Services | 2 | | 2 | 1 | 3 |



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| | | | | | | |
|---|---|---|---|---|---|---|
| 505 | Humanities 5 | 3 | | 3 | | 3 |
| 507 | Architectural Representation & Detailing | 2 | 2 | 2 | 2 | 4 |
| 509 | Architectural Theory 3 | 2 | 2 | | | 2 |
| 520 | College Projects 5 | | 3 | | 3 | 3 |
| 521 | Elective 5 | | 3 | | 3 | 3 |
| | **Total** | **14** | **22** | **14** | **22** | **36** |

**Semester 6**

| | **Semester 6 Exam conducted by individual colleges** | **Teaching Scheme** | | **Credits** | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 601 | Architectural Design Studio 6 | | 8 | | 8 | 8 |
| 602 | Allied Design Studio 6 | | 3 | | 3 | 3 |
| 603 | Architectural Building Construction & Materials | 3 | 3 classes Technology Studio | 3 | 1 | 4 |
| 604 | Theory & Design of Structures 6 | 2 | | 2 | 1 | 3 |
| 608 | Architectural Building Services 4 | 2 | | 2 | 1 | 3 |
| 605 | Humanities 6 | 3 | | 3 | | 3 |
| 607 | Architectural Representation & Detailing 6 | | 6 | | 6 | 6 |
| 620 | College Projects 6 | | 3 | | 3 | 3 |
| 621 | Elective 6 | | 3 | | 3 | 3 |
| | **Total** | **12** | **24** | **12** | **24** | **36** |

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**Semester 7**

| | Semester 7<br>Exam conducted by individual colleges | Teaching Scheme | | Credits | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 701 | Architectural Design Studio 7 | | 8 | | 8 | 8 |
| 702 | Allied Design 7 | 2 | 2 | 2 | 2 | 4 |
| 703 | Architectural Building Construction 7 | 3 | 3 classes Technology Studio | 3 | 1 | 4 |
| 704 | Theory & Design of Structures 7 | 2 | | 2 | 1 | 3 |
| 708 | Architectural Building Services 5 | 2 | | 2 | 1 | 3 |
| 707 | Architectural Representation & Detailing 7 | 2 | 3 | 2 | 3 | 5 |
| 710 | Professional Practice 1 | 3 | | 3 | | 3 |
| 720 | College Projects 7 | | 3 | | 3 | 3 |
| 721 | Elective 7 | | 3 | | 3 | 3 |
| | **Total** | **14** | **22** | **14** | **22** | **36** |

**Semester 8**

| | Semester 8<br>Exam conducted by individual colleges | Teaching Scheme | | Credits | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 810 | Professional Practice 2 | Professional Training of 16 week | | | | 16 |

**Semester 9**

| | Semester 9<br>Exam conducted by individual colleges | Teaching Scheme | | Credits | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 901 | Architectural Design Studio 8 | | 8 | | 8 | 8 |
| 902 | Allied Design 8 | 2 | 3 | 2 | 3 | 5 |



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|---|---|---|---|---|---|---|
| 903 | Architectural Building Construction 8 | 2 | 2 classes | 2 | 1 | 3 |
| 904 | Theory & Design of Structures 8 | 1 | Technology | 1 | 1 | 3 |
| 908 | Architectural Building Services 5 | 1 | Studio | 1 | 1 | 2 |
| 906 | Environmental Studies 4 | 2 | | 2 | | 3 |
| 910 | Professional Practice 2 | 3 | | 3 | | 3 |
| 911 | Design Dissertation | 1 | 3 | 1 | 3 | 4 |
| 921 | Elective 8 | | 3 | | 3 | 3 |
| 922 | Elective 9 | | 3 | | 3 | 3 |
| | **Total** | **14** | **22** | **14** | **22** | **36** |

**Semester 10**

| | **Semester 10. Exam conducted by individual colleges** | **Teaching Scheme** | | **Credits** | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 1006 | Environmental Studies 5 (Building sciences & Sustainability) | 2 | 8 classes | 2 | 1 | |
| 1007 | Architectural Representation & detailing 9 | | of tech.studio | | 6 | |
| 1012 | Advanced Building Construction and Structures | 2 | | 2 | 1 | |
| 1009 | Advanced Theories 4 | | | 2 | | |
| 1010 | Professional Practice 3 | 2 | | 2 | | |
| 1011 | Design Dissertation | | 16 | | 16 | |
| 1021 | Elective 10 | | 4 | | 4 | |
| | **Total** | **2** | **34** | **2** | **34** | **36** |

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## Master of Architecture (Project Management)

**Semester 1**

| Sr. no. | Course title | Teaching Scheme | | |
|---|---|---|---|---|
| | | Lecture | Studio | Total |
| **Core subjects (theory)** | | | | |
| **Th - 01** | Management Theories - Principles & Practices | 4 | | **4** |
| **Th - 02** | Law - 1 : Legal Frame work for Construction | **4** | | **4** |
| **Th - 03** | Project Planning & Scheduling, Monitoring & Control | **4** | | **4** |
| **Studio subjects** | | | | |
| **St-01** | Construction Materials And its Management | | **4** | **4** |
| **St-02** | Computer Application in Construction Management | | **4** | **4** |
| **Electives subjects (any two)** | | | | |
| **El -01** | Elective - 1 | | **3** | **3** |
| **El - 02** | Elective - 2 | | **3** | **3** |
| **Total credits** | | | | **26** |

**Semester 2**

| Sr. no. | Course title | Teaching Scheme | | |
|---|---|---|---|---|
| | | Lecture | Studio | Total |
| **Core subjects (theory)** | | | | |
| **Th - 04** | Project Accounts and Economic | 4 | | **4** |
| **Th - 05** | Law 2: Contract Management | **4** | | **4** |
| **Th - 06** | Construction Equipment and Personnel Management | **4** | | **4** |



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| | | | | |
|---|---|---|---|---|
| **Studio subjects** | | | | |
| **St-03** | Advanced Construction Methods and Techniques | | **4** | **4** |
| **St-04** | Research Methods in Construction | | **4** | **4** |
| **Electives subjects (any two)** | | | | |
| **El -05** | Elective - 1 | | **3** | **3** |
| **El – 06** | Elective - 2 | | **3** | **3** |
| **Total credits** | | | | **26** |

**Semester 3**

| Sr. no. | Course title | Teaching Scheme | | |
|---|---|---|---|---|
| | | Lecture | Studio | Total |
| **Core subjects (theory)** | | | | |
| **Th - 07** | Project Appraisal and Finance Management | 4 | | **4** |
| **Th - 08** | Construction Marketing Management | **4** | | **4** |
| **Th - 09** | Managerial Decision Making | **4** | | **4** |
| **Studio subjects** | | | | |
| **St-05** | Construction Management Studio | | **4** | **4** |
| **St-06** | Dissertation Stage - I | | **4** | **4** |
| **Electives subjects (any two)** | | | | |
| **El -09** | Elective - 1 | | **3** | **3** |
| **El – 10** | Elective - 2 | | **3** | **3** |
| **Total Credits** | | | | **26** |

**Semester 4**

| Sr. no. | Course title | Teaching Scheme | | |
|---|---|---|---|---|
| | | Lecture | Studio | Total |
| **Electives Subjects (Any Two)** | | | | |



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| | | | | |
|---|---|---|---|---|
| **EI -13** | Elective - 1 | **3** | | **3** |
| **EI – 14** | Elective - 2 | **3** | | **3** |
| **Studio Subjects** | | | | |
| **St-07** | Dissertation Stage - II | **0** | **20** | **20** |
| **Total credits** | | | | **26** |

## Bachelor of Vocational (Interior Design)

**Semester 1**

| | **Semester 1 Exam conducted by individual colleges** | **Teaching Scheme** | | **Credits** | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 101 | Interior Design Studio - 1 | | 6 | | | 6 |
| 102 | Interior Construction -1 | 1 | 4 | | | 5 |
| 103 | Interior services - 1 | 1 | 2 | | | 3 |
| 104 | Communication Skill - 1 | 2 | | | | 2 |
| 105 | Interior Drawings & Representation Skills -1 | 1 | 3 | | | 4 |
| 106 | Basic Design Studio -1 | | 6 | | | 6 |
| 107 | Interior Materials & Products -1 | 1 | 1 | | | 2 |
| 108 | History of Furniture -1 | 2 | | | | 2 |
| | **Total** | **8** | **22** | | | **30** |

**Semester 2**

| | **Semester 2 Exam conducted by individual colleges** | **Teaching Scheme** | | **Credits** | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |



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Date :

| | | | | | | |
|---|---|---|---|---|---|---|
| 201 | Interior Design Studio - 2 | | 6 | | | 6 |
| 202 | Interior Construction -2 | 1 | 4 | | | 5 |
| 203 | Interior services - 2 | 1 | 2 | | | 3 |
| 204 | Communication Skill - 2 | 2 | | | | 2 |
| 205 | Interior Drawings & Representation Skills -2 | 1 | 3 | | | 4 |
| 206 | Basic Design Studio -2 | | 6 | | | 6 |
| 207 | Interior Materials & Products -2 | 1 | 1 | | | 2 |
| 208 | History of Furniture -2 | 2 | | | | 2 |
| | **Total** | **8** | **22** | | | **30** |

**Semester 3**

| | **Semester 3 Exam conducted by individual colleges** | **Teaching Scheme** | | **Credits** | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 301 | Interior Design Studio - 3 | | 6 | | | 6 |
| 302 | Interior Construction 3 | 1 | 4 | | | 5 |
| 303 | Interior services - 3 | 1 | 2 | | | 3 |
| 304 | Communication Skill - 3 | 2 | | | | 2 |
| 305 | Interior Drawings & Representation Skills -3 | 1 | 4 | | | 5 |
| 306 | Environmental studies 1 | 2 | | | | 2 |
| 307 | Interior Materials & Products -3 | 1 | 2 | | | 3 |
| 308 | History of Furniture -3 | | 4 | | | 4 |
| | **Total** | **8** | **22** | | | **30** |



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**Semester 4**

| | Semester 4<br>Exam conducted by individual colleges | Teaching Scheme | | Credits | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 401 | Interior Design Studio - 5 | | 6 | | | 6 |
| 402 | Interior Construction 4 | 1 | 4 | | | 5 |
| 403 | Interior services - 4 | 1 | 2 | | | 3 |
| 404 | Communication Skill -4 | 2 | | | | 2 |
| 405 | Interior Drawings & Representation Skills -4 | | 4 | | | 4 |
| 406 | Interior Professional practices 1 | 3 | | | | 3 |
| 407 | Elective 1 | | 3 | | | 3 |
| 408 | Interior working drawing | 1 | 3 | | | 4 |
| | **Total** | **8** | **22** | | | **30** |

**Semester 5**

| | Semester 5<br>Exam conducted by individual colleges | Teaching Scheme | | Credits | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 501 | Interior Design Dissertation | | 8 | | | 8 |
| 502 | Interior working drawing 2 | 1 | 4 | | | 5 |
| 503 | Interior services - 5 | 1 | 3 | | | 4 |
| 504 | Research Methodology | 2 | | | | 2 |
| 505 | Interior Drawings & Representation Skills -5 | | 4 | | | 4 |



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| | | | | | | |
|---|---|---|---|---|---|---|
| 506 | Interior Professional practices 2 | 4 | | | | 4 |
| 507 | Elective 2 | | 3 | | | 3 |
| | **Total** | **8** | **22** | | | **30** |

**Semester 6**

| | **Semester Exam conducted by individual colleges** | **Teaching Scheme** | | **Credits** | | |
|---|---|---|---|---|---|---|
| **Sub. No.** | **Subjects** | **Lecture** | **Studio** | **Theory** | **Studio** | **Total** |
| 601 | Interior Professional practices 1 | | | | | 16 |
| | **Total** | | | | | **16** |



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## 6. Course Outcomes (COs)

## Bachelor of Architecture (B.Arch.)

**Course Outcomes (CO), Program Outcomes (PO), Program Specific Outcomes (PSO)**
**Course Outcomes (CO) 2022-2023**

### SEMESTER 1

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 101 | Architectural Design Studio 01 | CO1 | Understanding anthropometry and its relation to spaces. |
| | | | CO2 | Students should understand the scales and proportions through practical exercises and theory. |
| | | | CO3 | Understanding context and space for creating design form. |
| | | | CO4 | Students should be exposed to architects, their works and style though text, drawings and pictures. |
| | | | CO5 | Applying principles, concepts and fundamentals of basic design to architectural design project. |
| | | | CO6 | Develop appropriate graphic skills and presentation techniques to explain the project. |
| 2 | 102 | Allied Design Studio 01 | CO1 | The students should be able to appreciate the visual design elements such as points, lines, planes, shapes, forms, space, colour and texture. |
| | | | CO2 | The students should understand principles of designs like contrast, scale, proportion, rhythm etc. |
| | | | CO3 | The students should understand principles of similarity and self-similarity. |
| | | | CO4 | Students should be able to demonstrate space making through the basic elements of design and principles of composition. |
| | | | CO5 | Students should be exposed to sources of inspiration for bringing out the creativity. |
| | | | CO6 | The students should be able to understand the application of principles of design like Balance, Movement, Rhythm, Proportion, Scale, and Harmony in three dimensional composition. |



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| | | | | |
|---|---|---|---|---|
| | | | CO7 | The students should be able to articulate the priorities of the objectives of design: aesthetics, order, efficiency and economy. |
| | | | CO8 | The students should be able to orient study of Architecture as a design discipline. |
| 3 | 103 | Architectural Building Construction & Materials 01 | CO1 | Understanding of students in construction built form & building practice. |
| | | | CO2 | The students should understand the basic elements of buildings from substructure to superstructure. |
| | | | CO3 | The students should understand various structures and their typologies such as load bearing and framed structure. |
| | | | CO4 | The knowledge of basic construction materials, their characteristics, occurrences or production, classification, bonds, properties and uses viz. stone, bricks |
| | | | CO5 | Students should understand the materials properties such as density & specific gravity, strength, thermal properties etc. |
| | | | CO6 | Student should understand Contextual relevance of construction of buildings by incorporation of Natural and artificial materials |
| | | | CO7 | Student should understand properties of different materials comprising various aspects like its technology, Aesthetic, Socio-Cultural, Socio-Economic, Ecology, green materials |
| | | | CO8 | Student should understand representation of construction and joinery details in graphical representation |
| 4 | 104 | Theory & Design of Structures 01 | CO1 | Understanding of the aim and objective of Theory of structures and application of the study of structures for Architecture. |
| | | | CO2 | Students should be able to understand the rudimentary concepts and terminologies of Theory of Structures, also learn the various components of a building from foundation to roof. |
| | | | CO3 | Students should be able to understand and apply the fundamentals of Mechanics of rigid bodies, also SI System and units in the scope of Architecture. |
| | | | CO4 | Students should understand the forces that are involved in the stability of structures and its effects on structural components. |
| | | | CO5 | Students should be able to understand and classify Force systems to perform resolution and composition of forces for coplanar force systems |



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|---|---|---|---|---|
| | | | CO6 | Students should be able to differentiate Dead loads and live loads and learn the different type of loads a structure can be affected by. |
| 5 | 105 | Humanities 01 | CO1 | The students should comprehend the Importance of Humanities in Architecture and how humans have evolved since the prehistoric era. |
| | | | CO2 | The students should understand the fundamentals of Formation of societies from Prehistoric period to modern times. |
| | | | CO3 | The students should learn History of culture for understanding human cultural development, products and sociology. |
| | | | CO4 | The students should be able to identify ways to more effectively utilize the traditional knowledge systems. |
| | | | CO5 | The student should be acquainted with earliest evidence of human history in India and how does that compare with other parts of the world. |
| | | | CO6 | Students should be able to illustrate timelines and use them as a tool to understand chronology. |
| 6 | 106 | Environmental studies 01 | CO1 | The students should get knowledge of the relationship between the natural environment and the built environment |
| | | | CO2 | The students should get knowledge of natural resources such as forest resource, water resource, mineral resource, food resource, energy resource, land resource |
| | | | CO3 | The students should gather information about different concepts of natural environment, ecology and ecosystems, Bio diversity and co-existence |
| | | | CO4 | Students should integrate the relationship between the natural environment and the built environment |
| | | | CO5 | Students should relate the building types & lifestyles in different geographic zones |
| | | | CO6 | Students should get knowledge of the different climatic zones as per NBC standards and passive design strategies used in the built environment. |
| 7 | 107 | Architectural Representation & Detailing 01 | CO1 | The student will be learning free hand drawings, various graphical symbols to represent building materials to interpret the fundamentals of architectural representation. |
| | | | CO2 | Understanding various scales, their ratios and application and techniques in drafting / drawing various objects. |



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|---|---|---|---|---|
| | | | CO3 | Understanding use and application techniques of various drafting/ drawing tools, equipment's and learning to draft/ draw. |
| | | | CO4 | Learning and drawing the formatting of drawing sheet; Architectural lettering, dimensioning techniques, methodologies. |
| | | | CO5 | Develop drawings using principles of orthographic projections. |
| | | | CO6 | Develop 3-dimensional views of geometrical forms of different complexity. |
| | | | CO7 | Develop a design idea to communicate ideas and concepts through graphical representation. |
| | | | CO8 | Gain inspiration and sharpen their ability to analyse from their surroundings, and activities in their immediate vicinity. |

**SEMESTER 2**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 201 | Architectural Design Studio 02 | CO1 | Leaning and understanding the concept of architecture in context and architecture as environment. |
| | | | CO2 | Introduction of project to students for designing of space for small groups with minor activities as program. |
| | | | CO3 | Applying their understanding of climate and analysis on site and design. |
| | | | CO4 | Introduction of case studies and its use in developing the project. This is though observation, analysis, documentation and deriving inferences. |
| | | | CO5 | Students should understand quality of space and its application in their design through text, drawings, photographs , etc. |
| | | | CO6 | Develop appropriate graphic skills and presentation techniques to explain the project. |
| 2 | 202 | Allied Design Studio 02 | CO1 | Students should be able illustrate the Primary Elements of design like Space, Line, Shape, Light, Texture, Form and Colour |
| | | | CO2 | Students should be able to develop in depth understanding of Three-dimensional compositions along with Incorporating colour in 3D compositions. |



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|---|---|---|---|---|
| | | | CO3 | Students explore the various possibilities of Model making with incorporation of design principles and colour schemes to increase their creativity level. |
| | | | CO4 | Students should be able to develop a language i.e writing practice for understanding design principles and also developing justification for their design concepts. |
| | | | CO5 | Students should be able to illustrate space making through the basic elements of design and principles of composition. |
| | | | CO6 | Students should be able to inculcate the essence of all design principles & applying them in the design process. The principles of design are comprehensive set of guidelines that help one's design take shape. |
| | | | CO7 | Students should be able to simulate the Design in everyday life, determinants of design forms, shapes, perception of Architecture and other forms of art. |
| | | | CO8 | The students should be able to associate the study of Architecture as a design discipline. |
| 3 | 203 | Architectural Building Construction & Materials 02 | CO1 | Students should understand brick piers, stone fenestration construction details. |
| | | | CO2 | Introduction of construction of arches, key elements and types in graphical representation |
| | | | CO3 | Students should understand the external envelopes, internal partitions in various materials, walling systems, cavity walls, openings/ fenestrations, materials used for the same. |
| | | | CO4 | Students to understand the structural consideration such as structural span, lintel. |
| | | | CO5 | Students to understand types of openings and door construction details. |
| | | | CO6 | Students should study the fenestration: opaque, translucent, transparent and the materials required. |
| | | | CO7 | Students should understand importance of wood, plywood as a construction material |
| | | | CO8 | Students should understand specifications and quantities of materials in synchronization with the demands of the design program. |
| 4 | 204 | Theory & Design of Structures 02 | CO1 | Students should be able to calculate the reactions when beams are loaded with concentrated loads, uniformly distributed loads |



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|---|---|---|---|---|
| | | | | and uniformly varying loads and also a combination of the above mentioned loads |
| | | | CO2 | Students should be able to determine the centroid and Moment of Inertia of plane laminae. |
| | | | CO3 | Students should be able to determine simple stress, strains, elastic constants and the relationship between them |
| | | | CO4 | Students should be able to calculate the shear force and bending moment along any section of a loaded beam by applying the conditions of equilibrium. |
| | | | CO5 | The ability to understand and summarise the detailed techniques of preparing shear force diagrams and bending moment diagrams should be clear to the students |
| | | | CO6 | Students should be able to apply all the above topics like Moment of Inertia, Modulus of Elasticity and Bending Moment in The Theory of Simple Bending |
| 5 | 205 | Humanities 02 | CO1 | The students should memorize the history of art culture, aesthetics, context & architecture. |
| | | | CO2 | The students should study Prehistory, Paleolithic and Neolithic cultures to help understand the formation of civilizations. |
| | | | CO3 | The students should understand the impact of geography on civilizations by studying river valley civilizations. |
| | | | CO4 | Students should learn the development of the idea of aesthetic in architecture through Classical Greece and Rome civilization. |
| | | | CO5 | Students should understand traditional Hindu canons of town planning and architecture of Vedic Culture & Kingship in India. |
| | | | CO6 | Students should understand the aesthetics of Indian temples of Buddhist and Jain architecture. |
| 6 | 206 | Environmental studies 02 | CO1 | The students should integrate the effect of architectural development on natural resources |
| | | | CO2 | The students should get the knowledge of sustainable development and renewable resources |
| | | | CO3 | Students should gain knowledge of the water cycle and its management |
| | | | CO4 | Students should relate the importance of conservation and generation of energy |
| | | | CO5 | Students should get knowledge of energy conservation strategies and the importance of renewable resources. |



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|---|---|---|---|---|
| | | | CO6 | Students should integrate the need for the conservation of water and strategies for the same. |
| 7 | 207 | Architectural Representation & Detailing 02 | CO1 | Drawing-Principles and techniques of Orthographic Projections of object/objects in different positions. |
| | | | CO2 | Techniques of drawing complex projections such as section plane in different angles, drawing of true section by slicing method. |
| | | | CO3 | Surface development and interpenetration of solids. |
| | | | CO4 | Understand the techniques of drawing one point & two point perspective views, apply the knowledge in solving various problems on solids and represent graphically. |
| | | | CO5 | Develop appropriate graphic skills and technical drawings which is helpful to explain the contents of a design. |
| | | | CO6 | Understand the techniques of drawing shades & shadows, apply the knowledge in solving various problems on points, lines, planes, solids and represent graphically. |
| | | | CO7 | Students will combine their knowledge of various graphical techniques and sketching to present their ideas for developing, discussing and building their design. |
| | | | CO8 | Recognizing the buildings perspectives |
| | | | CO9 | Develop perception and presentation of architectural forms and buildings. |

**SEMESTER 3**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 301 | Architectural Design Studio 03 | CO1 | Introduction to socio-cultural aspects like lifestyle, culture, traditions and their effect on architectural design. Also to understand the Aesthetic aspects of Design along with spatial attributes (scale and proportions, volumes, textures, light and shadows etc.) and formal characteristics. |
| | | | CO2 | Introducing students to learn from case, referral, and live studies - process of observation, analysis, and documentation and deriving inferences. |
| | | | CO3 | Conduct site visits to understand the site and its context, documentation through the medium of text, photography, sketches, drawings etc. which will help them to take decisions |



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| | | | | of zoning, circulation within site, distribution of built and open spaces, activity relationships and adjacencies and views. |
| | | | CO4 | Students should 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. |
| | | | CO5 | The students to apply the knowledge of building services to the design problem. Implications of basic services involved in building design along with the concept and principles of universal design. |
| | | | CO6 | Synthesize the working culture of vertical studio - conducted with semester 3 students |
| | | | CO7 | Implicate knowledge of design fundamentals and knowledge gained in other subjects to develop better design solutions. |
| | | | CO8 | Develop appropriate graphic skills and presentation techniques (models, rendering) to explain the contents of a design. |
| 2 | 302 | Allied Design Studio 03 | CO1 | Students to be introduced to parameters of design, anthropometrics and ergonometric, human activity and use of interior spaces and furniture |
| | | | CO2 | Students to identify and do appropriate actual and literature case studies similar to the topic given and understand the merits and demerits and draw conclusion |
| | | | CO3 | Students to improve the effectiveness, accessibility, functionality and aesthetic appeal of an environment in a way that ensures the safe and optimal occupation and use of the interior space. |
| | | | CO4 | Students to Analysis of Design to perceive elements which define the character of the environment |
| | | | CO5 | Students to be able to Identify, define and describe relevant aspects of a design problem (goals, objectives). |
| | | | CO6 | Students to identify and study proper case studies similar to problem & identify merits & demerits & derive conclusion |
| | | | CO7 | Students should be able to Apply the design process, including concept, style, pre-design, schematic design and design development. |
| | | | CO8 | Students to Express ideas effectively through the use of drawings, colour rendering and presentations. |



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| 3 | 303 | Architectural Building Construction | CO1 | Students will be able to relate various Structural RCC Components such as Plinth and Ground. Beams, Foundation and materials such as Concrete, Flooring, Roofing etc. |
| | | | CO2 | The students will be able to understand the various Prerequisites and Designing of RCC Structural components and types of materials such as concrete, flooring, roofing, door types depending upon various factors such as Soil, loading and materials. |
| | | | CO3 | Students should be able to choose the appropriate type of RCC Components such as types of Beams, Slabs, Staircases and Material such as Concrete, flooring, roofing, doors etc. |
| | | | CO4 | Students should be able to examine and compare various building materials used in RCC Construction such as steel, concrete types etc. |
| | | | CO5 | Student should be able to interpret and evaluate various construction technologies as per site situations. Student will be able to adapt appropriate construction and working details for a RCC building component and finishing components such as flooring, roofing etc. |
| | | | CO6 | Understanding the entire process of RCC construction from foundation till roof. |
| 4 | 304 | Theory & Design of Structures 03 | CO1 | Students able to understand and analyse the basic theories and principles of structural Analysis through general basic concepts. |
| | | | CO2 | Students able to understand concept of simple bending theory of beams (concrete, timber, steel) and its application. |
| | | | CO3 | Students able to understand the concept of deflection in SSB and cantilever beams and its application in structural planning. |
| | | | CO4 | To determine combined stresses in structural elements i.e. Beam, column, footing and influence of stresses in design of footing and its application in structural analysis and design |
| | | | CO5 | Study of structural properties of materials and its grades, used in structures and its behaviour under different loading conditions and understanding the behaviour of structural elements. Overview of response of structure under various loading conditions. |



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| | | | CO6 | Conceptual Understanding of tension and compression zones in structural elements through SFD and BMD and concept of placing reinforcement in concrete. |
| 5 | 305 | Humanities 03 | CO1 | Understanding the decline of the Roman Empire and the beginning of the Christianity and formation of the Holy Roman Empire. The student should be able to relate the linkages between architecture and the socio- cultural, political and economic context of the period. |
| | | | CO2 | Appreciation of the Early Christian architecture, the Byzantine age, the Romanesque age, Medieval Europe age and the Gothic age |
| | | | CO3 | Analysing the reason for rise of new religion Islam and its impact on Europe, the fall of Constantinople |
| | | | CO4 | Examining through sketching the Renaissance and Baroque age, rediscovery of the classical past and impact on architecture, science and philosophy |
| | | | CO5 | Assessing the age of discovery, colonization, Industrial revolution and the impact it had on the world at large |
| | | | CO6 | Impact of the new materials, development of new modern styles like Neo - classical, Neo - gothic, Art Nouveau, Art Deco etc. on art, architecture and furniture |
| 6 | 306 | Environmental studies 03 | CO1 | The students should understand the relationship between human and environment. |
| | | | CO2 | Students will learn about climate, the different climatic zones of India. The students should get knowledge of concept of macro & microclimate and their types. |
| | | | CO3 | Theoretically understanding the variables of environment and their implications on the building design. |
| | | | CO4 | Students should understand the various passive design strategies for thermal comfort in buildings for different climatic zones, also modern & traditional methods to achieve thermal comfort. |
| | | | CO5 | Understanding of energy flow patterns in buildings. |
| | | | CO6 | Students should learn to derive the climate responsive design of buildings. |
| 7 | 307 | Architectural Representation & Detailing 03 | CO1 | Students learn to develop previous technical drafting skills with simple three dimensional objects and building components through Technical Drawings. |



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| | | | CO2 | The students shall be able to understand principles of perspective drawings & principles of sciography sketching by technical methods. |
| | | | CO3 | To produce architectural objects by applying method of exterior and interior perspective & sciography drawings. |
| | | | CO4 | Student should acquire graphic skills to present a building, analyse its elements and explain the composition. |
| | | | CO5 | The course should prepare the students to construct their own set of architectural drawings explaining their design. An important tool to design and execute their projects |
| | | | CO6 | Students shall able to construct conceptual & presentation drawings in all subjects. |
| 8 | 308 | Architectural Building Services 01 | CO1 | Understanding the functions of various sanitary fittings and fixtures and be aware of the different types of materials and specifications of the same |
| | | | CO2 | Learning the importance of sanitations, domestic water supply and plumbing services |
| | | | CO3 | Understand the terminology and basic principles of water supply, storm water drainage and sanitation |
| | | | CO4 | Knowledge of sources, treatment and conveyance of water |
| | | | CO5 | Develop design skills for water supply in building and prepare architectural layouts |
| | | | CO6 | Understanding the systems for sewage, sullage, storm water and disposal within or from building premise to main |
| 9 | 309 | Architectural Theory 01 | CO1 | Students should understand and comprehend ideas in architecture through writings in architecture. |
| | | | CO2 | Students should appreciate architecture as the development of changing ideas overtime and as the representation of their particular time and context. |
| | | | CO3 | Student should be able to chart the change of ideas chronologically overtime. |
| | | | CO4 | Students should get acquainted with and improve comprehension about architecture using theoretical texts and architectural criticism. |
| | | | CO5 | Student should be able to enhance architectural comprehension by engaging with theoretical text and critical analysis of architectural works. |



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| | | | CO6 | Student should recognize architecture as a reflection of its era and context, appreciating its evolution and historical significance. |

**SEMESTER 4**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 401 | Architectural Design Studio 04 | CO1 | Students will be able to find out and select attributes of Architectural character through application of indigenous materials, construction technology from the documentation of a settlement in different regional and climatic context. |
| | | | CO2 | Students will be able to comprehend site specific stimuli through responses to physical, climate, visual, cultural contexts from the documentation of a settlement in different regional and climatic context. |
| | | | CO3 | Students will be able to apply zoning, activity distribution, circulation and activity relationships to multiple layering of architectural space |
| | | | CO4 | Students will be able to analyse passive solar responses and fenestration design from settlement study to test them in their own designs. |
| | | | CO5 | Students will be able to appraise function and space studies as well as defined user group specific perception of space and compare it with their own design solutions |
| | | | CO6 | The course should prepare the students to develop their own suitable design language for architectural design of multicellular, multiple level spaces by application of principles of functionality, climate, composition, and aesthetics. |
| | | | CO7 | Analyse the operational atmosphere of the vertical studio involving students in their fourth semester. |
| | | | CO8 | Acquire the necessary graphic abilities and presentation techniques (including modelling and rendering) to effectively illustrate the concepts within a design. |
| 2 | 402 | Allied Design Studio 04 | CO1 | Students expected to learn about commercial spaces and to apply individual professional design acumen with enhanced skills of planning interior spaces. |



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| | | | CO2 | Student to achieve individual interpretations through client profiling, case studies and framing of requirements. |
| | | | CO3 | Students to develop appropriate concept and apply innovative design ideas and style. |
| | | | CO4 | Student will provide due emphasis to the relationship of space to the contextual environment |
| | | | CO5 | Students further explores application of advanced knowledge to materials used, construction techniques, modular furniture and services |
| | | | CO6 | Students expected to learn the usage of applying eco-friendly materials and practices |
| | | | CO7 | Students to apply knowledge of services like electrical, air conditioning, firefighting layout with detectors and sprinklers, water supply and plumbing in their design. |
| | | | CO8 | Students to master the rendering styles and enhance the drawings along with perspective views |
| 3 | 403 | Architectural Building Construction | CO1 | Introduce students to structural framing in steel for low rise medium span buildings. |
| | | | CO2 | Students should understand the methods of construction of various components of steel structures like foundation system, flooring systems, wall cladding systems. |
| | | | CO3 | Understanding the roofing system, concept of trusses for low rise medium span buildings. |
| | | | CO4 | Students should know about the moisture and fire protections in steel framed low rise medium span buildings. |
| | | | CO5 | Understanding the entire system of RCC framework starting from foundation till the roof. |
| | | | CO6 | Students should know the construction Process of both framed structures and Steel structures. |
| 4 | 404 | Theory & Design of Structures 04 | CO1 | Students able to understand concept of compression member i.e. short & long columns using Euler's and Rankine's theory |
| | | | CO2 | Learning different types of supports and their behaviour. Study of advantages of fixed support over other supports and its understanding through SFD and BMD. |
| | | | CO3 | Conceptual understanding of 2D and 3D structures and analysis of continuous beams using MDM moments. Understanding the concept of sway and non-sway frames and its application. |



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|---|---|---|---|---|
| | | | CO4 | Application of steel in structures. Studying steel table and different steel sections used as structural members. Performance of long and short span steel structures. |
| | | | CO5 | Students able to understand the importance of soil mechanics in structures. Study of different soil properties and its correlation with performance of structures. |
| | | | CO6 | Experimental investigation of properties of material like coarse aggregate , concrete ,tiles etc. |
| 5 | 405 | Humanities 04 | CO1 | Students will understand the organisation of kingdoms, art and architecture of the rock cut temples and hellenistic influence in the Indian subcontinent during early period of history. Understanding the origin of Hinduism, Vaishnavite, Shaivite traditions and its influence on the way of life and architecture. |
| | | | CO2 | Comparing the different temple styles developed according to the regions like Nagara, Versara, Dravidian styles and Temple Towns |
| | | | CO3 | Deducing the different temple styles and its evolution over the years with examples |
| | | | CO4 | Analysing the impact of Islamic architecture in India, its rise and spread throughout the country. Students should also know the influence of Islamic architecture in India especially Delhi and provincials areas like Gujarat, Calcutta, Malwa, Deccan etc. |
| | | | CO5 | Comparing the development of new regional Islamic regional styles in India |
| | | | CO6 | Understanding the colonical influence on Indian Architecture with focus on structures in Bombay, Delhi, Calcutta, and Madras. |
| 6 | 407 | Architectural Representation & Detailing 04 | CO1 | Understanding and learning the traditional methods of Surveying and Levelling. Identifying the tools and equipment's used for land surveying and understanding the modern methods using Total stations, GIS and GPS techniques. |
| | | | CO2 | Summarizing and understanding the history of Land surveys executed by the Government Department including information and working of Land Record Offices-7x12 extracts, DP sheets, zoning and planning |



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| | | | CO3 | Learning about the instruments and equipment's used for Chain Surveying in detail and understanding the different methods (direct and indirect) of surveying in various terrains. |
| | | | CO4 | Recording the measurements in a Field Book and tabulating the readings to learn the traditional techniques. Evaluating the area of a given plot and tabulating it to learn documentation process. |
| | | | CO5 | Learning and understanding the principle of the Prismatic Compass and method of recording the bearings and calculating the interior angles to find the area within a closed Traverse. |
| | | | CO6 | Learning the basics of contouring and characteristics of contours to understand the nature of the ground. |
| | | | CO7 | Learning to read Survey maps by applying the characteristics of contours to understand the features and undulations of the ground for applying in Architectural Design. |
| | | | CO8 | Learning the uses of a Theodolite and evaluating and calculating heights and distances of inaccessible structures by tabulating the measured angles. |
| 7 | 408 | Architectural Building Services 02 | CO1 | Understanding the concept of Rain water harvesting and to know its calculations |
| | | | CO2 | To Understand Basic principles of sanitation, collection and conveyance of waste matter from buildings, Quantity and quality of refuse, working and installation of sewers and sewer appurtenances. |
| | | | CO3 | Develop design skills for drainage in building and prepare architectural layouts |
| | | | CO4 | Demonstrate the understanding of basic calculations and sizing of service facilities in building |
| | | | CO5 | To know the gradients used in laying drains and sewers |
| | | | CO6 | Understanding the concept of Rain water harvesting and to know its calculations |
| 8 | 409 | Architectural Theory 01 | CO1 | Students should develop clear and concise writing skills to articulate architectural concepts and theories effectively. |
| | | | CO2 | Students should be able to acquire a proficient understanding of architectural terminology for effective communication of architectural ideas. |
| | | | CO3 | Students should be able to enhance the ability to express the conceptual framework and rationale behind individual design projects. |



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| | | | CO4 | Students should have knowledge and practice for proper referencing and citation techniques, while understanding the importance of avoiding plagiarism. |
| | | | CO5 | Student should articulate the thought process behind personal design projects, conveying ideas effectively through written expressions. |
| | | | CO6 | Student should develop critical thinking and writing skills to analyse and interpret architecture theories in relation to spatial design and built environment. |

**SEMESTER 5**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 501 | Architectural Design Studio 05 | CO1 | Students should gain knowledge and skills of optimizing spatial design by conducting detailed site study and documentation through drawings, sketches, photographs, etc. |
| | | | CO2 | Students will explore techniques to efficiently utilize available space, considering factors like zoning, circulation patterns, human flow, and functional requirements. |
| | | | CO3 | Students will consider utilities, transportation access, parking, and other essential amenities to ensure the functionality, universality and sustainability of the project. |
| | | | CO4 | Students should learn to analyse case studies through observation, documentation and inferences to understand how architectural design influences building use and user experience. |
| | | | CO5 | Students should be able to understand the influence of climatic factors on architectural design and implement appropriate passive strategies for proper lighting, ventilation, rain protection, heating, cooling, etc. |
| | | | CO6 | Students should learn how to incorporate necessary infrastructure and services into their architectural designs effectively. |
| | | | C07 | Students should be able to comprehend and familiarize with different architectural forms and their corresponding functions for various types of buildings in urban environments. |



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| | | | CO8 | Exploration of aesthetic aspects of design, including spatial attributes like scale, proportions, volumes, textures, and the interplay of light and shadows, as well as formal characteristics |
| 2 | 502 | Allied Design Studio 05 | CO1 | The understanding of the terms with their multiple aspects: Landscape, Landscape Architecture and Landscape Design, Learning about the basic Elements of Landscape design will be achieved. |
| | | | CO2 | Understanding of Fundamentals of Landscape Architecture: Land- Water- Vegetation will be enhanced |
| | | | CO3 | The knowledge and skills to deal with Landscape forms, Concept of Contours, Relief maps, Slope analysis will be gained |
| | | | CO4 | They will be acquainted with Vegetation palette and typologies |
| | | | CO5 | Understanding of Landscape values associated with Water as a fundamental element of Landscape Architecture will be developed. |
| | | | CO6 | Understanding of Concepts of Natural and Designed Landscape, Basic understanding of History of Landscape Architecture and Ancient Garden styles will be done through literature study. |
| 3 | 503 | Architectural Building Construction & Materials 05 | CO1 | Introduce students to building lightweight skin system and in-fill panel materials. |
| | | | CO2 | Students should understand the composite panel cladding system. |
| | | | CO3 | Students should understand the shallow foundation concepts and its types. |
| | | | CO4 | Students should know about different situation w.r.t soil condition and foundation selection. |
| | | | CO5 | Understanding the concept of Raft Foundation and its types. |
| | | | CO6 | Students should know the concepts of Buoyant Foundation and its components. |
| 4 | 504 | Theory & Design of Structures 05 | CO1 | Students able to understand IS steel table and steel sections available in the market and its application |
| | | | CO2 | Students able to understand the connections i.e. riveted, welded and bolded connections, for steel framed buildings and trusses. To design the steel joints and to find strength of joint. |
| | | | CO3 | Students able to understand the concept of tension members and its application and design of tension members in trusses. |



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| | | | CO4 | Students able to understand the concept of compression members and its application and design of compression members in trusses and columns |
| | | | CO5 | Students will be able to design steel beams. |
| | | | CO6 | Students able to understand the behaviour of slab base and base plates and its design. Design and application of gusseted base and grillage foundation. |
| 5 | 505 | Humanities 05 | CO1 | Students should be able to Analyse the linkages between art and architecture and the social, cultural, political and economic context of the period. For example. Understanding the Timeline under Art and architecture. |
| | | | CO2 | Students should Articulate the theme of Modern and Post-modern movements in art and architecture during the wars and deconstruct the architectural evolution developments in technology and structural systems. |
| | | | CO3 | Students should be able to Review the critical, philosophical and regionalism influences on architecture. Students should be able associate the Art and Architecture in the Indian Context with respect to the influence of Modernism and famous Indian Modernists. |
| | | | CO4 | Students should be able to Articulate the various architecture setups and distinctive features of various periods. For e.g. From 1870 to 2000, Period movements. |
| | | | CO5 | Students should be able to Understand the Influence of Vistara and the validation of Vernacular Architecture. |
| | | | CO6 | Students should be able to Associate the influence of Le Corbusier, Louis Kahn and Indian Modernists in the context of Indian Architecture. |
| 6 | 507 | Architectural Representation & Detailing 05 | CO1 | The students should understand the importance of specification in the construction activities, methods of drafting specifications. |
| | | | CO2 | The students should learn the types of specifications i.e. Detailed &standard ,guide specification |
| | | | CO3 | The students should grasp the aim, objective and scope of Estimation and Costing. |
| | | | CO4 | Students should understand the various types & Methods of Approximate Estimating using Service Unit Basis or Carpet Area Method and Cubic Content Method, and Detailed |



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|---|---|---|---|---|
| | | | | Estimating using the current Rates in Mumbai and Navi Mumbai for Revised Estimates, Supplementary Estimating and Annual Repair & Maintenance Estimating. |
| | | | CO5 | Students should learn to prepare a Detailed Estimate on item rate basis so as to apply in the preparation of Bill Of Quantities of a Tender. |
| | | | CO6 | Students should get acquainted with Rates for Civil work items- as per Municipal or P.W.D. Schedule Rates and Current market rates in Mumbai, Units for rates. |
| | | | CO7 | Students should be able to calculate quantities of civil works of a Load Bearing Structure and tabulate it on the detailed measurement sheet and preparation of an Abstract Sheet. |
| | | | CO8 | Students should be able to calculate quantities of civil works of a Framed Structure and tabulate it on the detailed measurement sheet and preparation of an Abstract Sheet. |
| 7 | 508 | Architectural Building Services 03 | CO1 | Students should be acquainted with rudimentary concept of electricity: direct and alternating currents, three phase and single phase supply. |
| | | | CO2 | Students should understand electrical supply to sites and distribution to buildings and electrical distribution within buildings. |
| | | | CO3 | Students should articulate electrical layouts for interior spaces, application of open and concealed wiring, types of wires & wiring accessories. |
| | | | CO4 | Students should understand concepts of electrical safety- Ear thing, MCB, elcb, lightning conductor. |
| | | | CO5 | Students should be acquainted with artificial lighting, direct and indirect lighting, types of lamps & Illumination levels. |
| | | | CO6 | Students should understand concept and terminology, room acoustics, propagation and reverberation of sound & acoustics for lecture halls and Auditoriums. |
| 8 | 509 | Architectural Theory 03 | CO1 | Understand the significance of research writing in architecture and expression of creative thoughts through literature. |
| | | | CO2 | Develop an understanding of the fundamentals of theoretical architectural research, its components and the framework. |
| | | | CO3 | Exploration of published writings involving research papers, book chapters, articles, journals, etc. to develop an understanding of writing skills. |



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| | | | C04 | Establish the significance of data collection from primary and secondary sources, its study and critical analysis to carve out the information relevant to the study. |
| | | | CO5 | Evolvement of critical thinking process in learners, thereby leading to reflective reasoning |
| | | | CO6 | Build the confidence of expressing opinion through writings that are argumentative and though-provoking. |

## SEMESTER 6

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 601 | Architectural Design Studio 06 | CO1 | Students should have the expertise to enhance the character and identity of urban institutions through thoughtful design choices |
| | | | CO2 | Students should create functional, contextually responsive, and aesthetically pleasing designs. |
| | | | CO3 | Students should possess the skills to translate conceptual designs into detailed and technically sound architectural plans. |
| | | | CO4 | Students should be capable of developing designs that seamlessly integrate infrastructure and building systems and services. |
| | | | CO5 | Students should understand the importance of sustainable and efficient solutions through implementation of passive design strategies. |
| | | | CO6 | Students will implement efficient solutions through implementation of passive design strategies. |
| | | | CO7 | Students design should reflect the values, ethos, and vision of the institution, contributing to its overall identity and architectural design. |
| | | | CO8 | Students should develop plans through site specific aspects of physical, climatic, visual and cultural contexts. |
| 2 | 602 | Allied Design Studio 06 | CO1 | The capability to analyse real cases of designed landscapes and understanding of the steps to be followed while designing Landscape will be developed |
| | | | CO2 | Skillset to work upon contextual study of real time site on macro and macro level will be enhanced. |
| | | | CO3 | Capability to analyse site and context on multiple layers, Synthesise and mapping Suitability will be nourished. |



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|---|---|---|---|---|
| | | | CO4 | Students will be acquainted with the Methodology to Formulate landscape development proposal and Conceptual development based on pre-study. |
| | | | CO5 | The students will be acquainted with landscape drawings and the skills to produce the same |
| | | | CO6 | A skill of narration of the designed landscape project will be developed. |
| 3 | 603 | Architectural Building Construction & Materials 06 | CO1 | Introduce students to different floor slab construction for large bay sizes. |
| | | | CO2 | Student should know the application of Flat slab and its different types as per conditions. |
| | | | CO3 | Students should understand the configuration of Ribbed floor and its application. |
| | | | CO4 | Application of Prefab building elements and its materials. |
| | | | CO5 | Understanding the concept of Precast components and its infill materials. |
| | | | CO6 | Students should know the connection of Precast components with building Elements. |
| 4 | 604 | Theory & Design of Structures 06 | CO1 | Students will be able to Understand the behaviour and properties of RCC material |
| | | | CO2 | Students will be able to Understand the design philosophy of WSM and LSM method |
| | | | CO3 | Students will be able to understand load distribution in moment resisting frame and to understand role and behaviour of each member of frame under different loading condition |
| | | | CO4 | Students will be able to understand serviceability checks like shear, deflection etc. also they will able to study development length calculation |
| | | | CO5 | Students will be able to analyse and design of structural frame members like slab, beam for gravity loading conditions |
| | | | CO6 | Students will be able to analyse and design of structural frame members like, column and footing for gravity loading conditions |
| 5 | 605 | Humanities 06 | CO1 | The students will understand the Architecture with reference to social issues related to Urbanization. |
| | | | CO2 | To evaluation of the urbanization study the students need the study the history of an example. The students can create timeline mapping related to urbanization progress. |



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|---|---|---|---|---|
| | | | CO3 | The students will understand the issues related to urban migration and work patterns in urban areas. This can be understood by the analysis of the urban issues with reference to Mumbai Metropolitan Region. |
| | | | CO4 | The existing urbanization progress can be understood by the cases example of Mumbai, Malegaon, Bhiwandi, Bangalore etc. |
| | | | CO5 | Defining the rapid urbanization, Genesis of Urbanization, Urban population growth due to natural increase of migration into urban areas can achieve the problem arising in the Urbanization. |
| | | | CO6 | Understanding of preservation of Natural resources, natural heritage, Built heritage, and social- cultural heritage. |
| 6 | 607 | Architectural Representation & Detailing 06 | CO1 | Understanding RCC framed structure & different stages& process in construction of G+2 Floor RCC framed structure. |
| | | | CO2 | Understanding the working details for designed floor plans & making the appropriate changes. |
| | | | CO3 | Execute the learnings for Creating the Column layout, Making the Schedule for columns & representing it plan, Section & details. |
| | | | CO4 | Realize the significance, importance & necessity of Working on the Setting out plan & Centre line plan for the execution of the project. Understanding the purpose of plinth beam, wall & representing it plan, Section along with openings i.e. Doors & Window details. |
| | | | CO5 | Study and analyse the requisites of services like water supply, UG tank & OHT, drainage pipes , plumbing ,the design of respective systems, the challenges encountered, and the designing , Scheduling &representing it in working drawing . |
| | | | CO6 | Creating the Floor beam layout & slab layout with the sunk details and water proofing process for Terrace & Toilets |
| | | | CO7 | Understanding Kitchen ,Toilet and staircase Details Study and analyse the prerequisites of services, particularly water supply in high-rise structures, the sourcing of water, the design of respective water distribution systems, the challenges encountered, and the safety concerns associated thereto |



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|---|---|---|---|---|
| | | | CO8 | Student will grasp the knowledge & Understanding of working drawing along with Execution process & stages for RCC G+2 Framed structure. |
| 7 | 608 | Architectural Building Services 04 | CO1 | Realize the significance of fire safety provisions in a habitable structure |
| | | | CO2 | Develop the understanding and reasoning behind the fire safety rules and regulations enlisted in the National Building Code while also learning the technique to comprehend the guidelines |
| | | | CO3 | Execute the learnings through application in a high-rise residential building and assessing the practicality of fire safety standards |
| | | | CO4 | Study and analyse the prerequisites of services, particularly water supply in high-rise structures, the sourcing of water, the design of respective water distribution systems, the challenges encountered, and the safety concerns associated thereto |
| | | | CO5 | Study and analyse the prerequisites of services, particularly electrical supply and distribution in high-rise structures, the production of electricity, the municipal supply channels, the dissemination within buildings, the challenges encountered, and the safety concerns associated thereto |
| | | | CO6 | Grasp the knowledge of various vertical transportation systems available for high-rise structures, particularly lifts and escalators; comprehend the mechanisms involved, calculate the space requirements and reflect upon the application in design |

**SEMESTER 7**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 701 | Architectural Design Studio 07 | CO1 | Students should be introduced to different Housing typologies and its relation to the project proposed specific to urban areas. |
| | | | CO2 | To understand various evolution of a housing typology, clustering possibilities, and resultant built form so as to create a housing design using the relevant interpretation. |
| | | | CO3 | To evaluate socio-cultural aspects like lifestyle, cultural beliefs and practices, customs of community and their effect on housing design. |



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|---|---|---|---|---|
| | | | CO4 | To understand the economic concerns catering to the affordability of society and solutions based on architectural responses. |
| | | | CO5 | Students should understand qualitative and quantitative aspect of mass housing. |
| | | | CO6 | To understand and apply legislative aspects with reference to the housing context and setting of the project site |
| | | | CO7 | To analyse case specific study through the process of observation, survey and documentation and evaluate them leading to design approach. |
| | | | CO8 | To Design the solution based on to the project brief and the needs of the user stated as per the given data. |
| 2 | 702 | Allied Design Studio 07 | CO1 | Associating students with the different scales and order of human settlements and understanding the necessity for the aims, objectives, and, need for Town Planning. |
| | | | CO2 | To demonstrate an understanding of key urban concepts, globally adopted planning theories, and historical developments towards urban planning in India with appropriate examples. |
| | | | CO3 | Enable them to analyse the factors that shape urban environments, including social, economic, environmental, and political forces and tag out the principles of town planning, duties, and powers of town planning officers. |
| | | | CO4 | Enable them to apply principles of spatial analysis helping them to read maps, access land use plans, transportation networks, and infrastructural patterns of urban spaces. |
| | | | CO5 | Enable them to identify the different problems towards the growth of urban spaces through various surveys and accordingly analyse different types of land uses and their implications for urban development. |
| | | | CO6 | The student must be able to take on a live neighbourhood issue and present a solution that is effective in terms of innovation, appropriateness, and performance. |
| 3 | 703 | Architectural Building Construction & Materials 07 | CO1 | To develop the understanding of concept of deep foundations, pile foundations, different types of piles and their function |
| | | | CO2 | To understand multi-level basements, different services related to deep basements, waterproofing methods, procedure of |



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| | | | | construction of basement walls, challenges in construction of multi- level basements |
| | | | CO3 | To compare the different methods of multi-level basements on the basis of time taken for construction, site conditions, cost of construction etc. |
| | | | CO4 | To study different types of loads acting on high-rise structures, factors to be considered while designing high-rise structures basic principles to be followed in design of high-rise structures, different structural systems used for high-rise structures , different materials used for framework |
| | | | CO5 | To compare the different structural systems used for highrise structures and different materials used for framework |
| | | | CO6 | To understand behaviour of seismic load on structures, design principles for seismic resistant strucures in R.C.C. frame structures and Load Bearing structures |
| 4 | 704 | Theory & Design of Structures 07 | CO1 | Students will be able to understand the type of foundation and site conditions to decide specific foundation to achieve stability |
| | | | CO2 | Students will be able to understand the behaviour of each foundation under the gravity loading condition and soil strata condition |
| | | | CO3 | Students will be able to analyse, design and detailing of combined footing, also its necessity on site over isolated footing in detail |
| | | | CO4 | Students will be able to understand the circumstances under which Raft footing and Pile footing have been used also its analysis design and detailing in detail |
| | | | CO5 | Students will be able to understand the use of retaining wall also they will be able to analyse, Design and Detailing of Cantilever retaining wall |
| | | | CO6 | Student will be able to understand the earthquake ground motion also they will be able to determine base shear, storey shear of RCC frame structure by equivalent static method. |
| 6 | 707 | Architectural Representation & Detailing 07 | CO1 | To understand the need and importance of building bye laws and their applications |
| | | | CO2 | To understand the various laws for regulation of building operations and urban development. |
| | | | CO3 | To familiarize the students with various codes of practices /acts related to building construction |



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|---|---|---|---|---|
| | | | CO4 | To understand designing of residential building according to regulation and document the Municipal drawings of the building |
| | | | CO5 | To study implementation of regulations through municipal approval drawing. |
| | | | CO6 | To understand national building codes.(NBC) |
| | | | CO7 | To understand building bylaws and regulations of Mumbai & Navi Mumbai city and suburb. |
| | | | CO8 | To Explore detail specifications of different building materials. |
| 7 | 708 | Architectural Building Services 05 | CO1 | Students will understand the need of Thermal comfort conditions - temperature control, Humidity control, air filtration, and air changes. |
| | | | CO2 | Students will understand the Ventilation system by studying the Passive Technique via the case studies. |
| | | | CO3 | Students will understand the current market scenario with respect to Ducted and Non- Ducted Mechanical Ventilation in the Basements which will be conducted through Case studies. |
| | | | CO4 | Students will need to study the Concept of Refrigeration cycle along with understanding the systems of air conditioning of Local systems for both Cooling and Heating systems. |
| | | | CO5 | Students will need to study the Concept of Refrigeration cycle along with understanding the systems of air conditioning of Cycle in Central system for both Cooling and Heating systems. |
| | | | CO6 | Students shall understand the fittings and fixtures, types of Duct work, other fixtures like fire dampers, return pipe and supply line required for placing the air conditioning systems for both Heating and Cooling. |
| 8 | 710 | Professional Practices 01 | CO1 | Familiarising students to the profession of architecture, Architect's Act 1972, its amendments, professional roles, duties and responsibilities of an Architect |
| | | | CO2 | Understanding of the code of profession, codes pertaining to architectural competitions and copy rights of drawings |
| | | | CO3 | Reviewing different types of office setup and their administration and structure through examples |
| | | | CO4 | Explaining the concept of tenders, types, documents, procedure for floating of tenders |
| | | | CO5 | Understanding the process of selection of tenders, bid capacity, rate analysis and work orders |



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| | | | CO6 | Understanding the types of contracts and its documents, vocabulary related to contracts such as earnest money, liquidate damage, termination of contract, payment certificates etc. |

**SEMESTER 8**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 811 | Professional Training | CO1 | Students will learn various work procedures of the Architectural education. |
| | | | CO2 | Students will understand how to design practically by visiting Site, observing Site surroundings. |
| | | | CO3 | Students will be exposed to various construction Technologies, new materials etc. |
| | | | CO4 | Students will learn the skills to deal with Clients, Consultants, Vendors and Labourers. |
| | | | CO5 | Students will understand professional development skill. |
| | | | CO6 | Students will gain practical experience in the field of Architecture. |
| | | | CO7 | Students will learn to take responsibility to handle projects independently. |
| | | | CO8 | Students will learn and understand Environment of established office for their future professional practice. |

**SEMESTER 9**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 901 | Architectural Design Studio 08 | CO1 | The student will understand and develop the design project through predesign study i.e. design brief formulation with area program and site. The student will learn to formulate design thinking with respect to site context, surroundings and needs of design program for a large scale multi-activity project. |
| | | | CO2 | The student will apply concepts learnt in Basic design to Create Detailed Compositions of masses in all dimensional relevance with respect to functional aspects |



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| | | | CO3 | The student will create stylization and expression of Architectural forms with creative thinking. Create Space articulation for masses, solid void creation in building design with regard to aesthetics sensibility. |
| | | | CO4 | The student will correlate and develop integration of unbuilt spaces to build mass after proper analysis and evaluation and role of hard and soft landscape. |
| | | | CO5 | The student will innovate in Architectural detailing of spaces applying principles of building performance and sustainability. |
| | | | CO6 | The student will work out provision of facilities in accordance with building standards and norms. Applicable in the particular zone and building type. |
| | | | CO7 | The student will apply principles of structural design in the building to accommodate ease of construction applying building technology and services in relation to economy of materials and workability. |
| | | | CO8 | The student will critically evaluate multifunctional aspects of building space and its integration in design and overall cultural and socio-economic value. |
| 2 | 902 | Allied Design Studio 08 | CO1 | Highlighting the importance of town planning and outlining the scope for the students. |
| | | | CO2 | Students will understand the concepts and theories of town planning. Students will summarize the concepts and theories related to town planning. |
| | | | CO3 | Students will apply the data collection and different analysis methods to the collected data. |
| | | | CO4 | Linking and analysing the impact of town planning theories, concepts and planning factors. |
| | | | CO5 | After assessment, students will get the reviews on assignments of town planning authorities. |
| | | | CO6 | The student will research about the planning authorities and will write a detailed report on functions of town planning authorities. |
| | | | C07 | Students will develop the practical understanding of the subject and will do the case study to understand it in detail. |
| | | | C08 | Students will understand the importance of authorities and acts and strategies related to the subject. |



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|---|---|---|---|---|
| 3 | 903 | Architectural Building Construction & Materials 08 | CO1 | Knowing and understanding the broad range of long span structure, classification and concepts of long span structures in relation to the load transfer. |
| | | | CO2 | Understanding the behaviour of components of long span structures and its performance under different loading conditions. |
| | | | CO3 | Understanding the different structural systems and structural grids of the long span structures. |
| | | | CO4 | Study and understand the current advanced construction materials, construction techniques and its application in long span & high rise/tall structures. |
| | | | CO5 | Understand the construction methods, for various structural systems |
| | | | CO6 | Holistic understanding through integrated approach i.e integration of theory of design of structures & building services |
| | | | CO7 | Develop the ability to visualize and design the building as per the project requirements choosing the appropriate building materials and construction techniques and methods thereof. Preparation of the construction details drawing. |
| 4 | 904 | Theory & Design of Structures 08 | CO1 | Understanding the difference between short span and long span structure also students should be able to understand ineffectiveness of conventional design method for long span structural design |
| | | | CO2 | Comparative study between long span simply supported beam and long span simply supported three hinge arch through its BMD.so students will be able to understand the effectiveness of Arch over beam |
| | | | CO3 | Comparative study between long span simply supported beam and long span simply supported Suspension cable, three stiffened girders through its BMD.so students will be able to understand the effectiveness of cable and stiffened girder over beam |
| | | | CO4 | Study of Folded plate, shell structure, space frame structure through its behaviour under loading condition |
| | | | CO5 | Study of pre tensioning and post tensioning system and students should be able to understand the effectiveness of pre-stressed concrete in design of long span structure |



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| | | | | |
|---|---|---|---|---|
| | | | CO6 | Study of effectiveness of all advance structural system for long span design through case study and student will be able to understand the effect of forms and material strength in design of long span structure |
| 6 | 906 | Environmental Studies 04 | CO1 | Students will understand the concept of sustainable buildings and different types of Indian and International building rating system. |
| | | | CO2 | Students will study National Building Code with respect to Chapter 11 on Sustainability. |
| | | | CO3 | Students will learn about energy efficient design and energy conservation building code. |
| | | | CO4 | Students will learn about water and waste-water management. |
| | | | CO5 | Students will understand about various parameters for sustainable building materials. |
| | | | CO6 | Students will learn about solid waste management. |
| 7 | 908 | Architectural Building Services 06 | CO1 | Students will revise & implement all the Building services learnt in previous semesters viz. Sanitation, Water supply, External services like Building Drainage, Rain water Harvesting, Electricity, Lighting, Acoustics, Fire Protection for Buildings, Services for High Rise Building, Vertical Transportation systems, HVAC. |
| | | | CO2 | Students will also learn advance technologies including BMS introduced through various case studies, NBC & ECBC 2017 Manuals. |
| | | | CO3 | Students will understand about Waste management, Services on Water with Calculations. |
| | | | CO4 | Students will understand about Energy with Calculations |
| | | | CO5 | Students will be exposed to specialized services for specific functions/building types viz: Hospitals, Hotels, and Auditorium etc. Students will also learn specialised services as per climatic conditions. Students will also understand Infrastructure& amenities in public spaces |
| | | | CO6 | Students will learn to prepare integrated service layout in their current year Architectural Design viz. water supply, Drainage, Fire safety, HVAC, Energy with supporting calculations and Report. |
| 8 | 910 | Professional Practice 02 | CO1 | Evaluating purpose and process of Land Acquisition and its implications. |



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|---|---|---|---|---|
| | | | CO2 | The student understands role of easement rights in land holding and types of easements. |
| | | | CO3 | Applying dynamics of Valuation in design, possession and development of Properties. |
| | | | CO4 | The student learns to analyse Various methods of Valuation its need. |
| | | | CO5 | Understanding concepts of Dilapidation in relation to the services to be provided in practice. |
| | | | CO6 | Understanding concepts fire insurance in relation to the services to be provided in practice. |
| 9 | 911 | Design Dissertation 01 | CO1 | Research and exploration: Students should engage in research process to explore a specific architectural topic or problem which will involve background study, literature review, site analysis, case studies, and other research methodologies |
| | | | CO2 | Critical thinking and evaluation: Students should be able to apply critical thinking skills and develop a research methodology to justify the project considering the social, cultural and environmental aspects |
| | | | CO3 | Professionalism and Ethics: Students should understand and adhere to professional standards and ethical principles in architectural research demonstrating professionalism, integrity and accountability in their Design Dissertation |
| | | | CO4 | Students should be able to develop a comprehensive design proposal based on their research findings. |
| | | | CO5 | Students should enhance their communication and presentation skills through the development of clear and coherent design documentation, effective visual representation techniques, and oral presentation skills. Students will learn to communicate their design research to a diverse audience, including their peers, faculty and jurors. |
| | | | CO6 | Professional Development: The students should develop professionally through understanding the ethical responsibilities of architects, considering the social and cultural impacts of design, and developing a strong work ethic. Students should also learn management skills, including time management and organization. |



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## SEMESTER 10

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 1006 | Environmental Studies 05 (Building Sciences and Sustainability) | CO1 | Students will learn to implement Environmental strategies in Architectural Design. |
| | | | CO2 | Students will analyse design through the tools for Post Occupancy reviews. |
| | | | CO3 | Students will evaluate Urban Environment and critiques it |
| | | | CO4 | Students will evaluate and apply Sustainable Design strategies in Architectural Design |
| | | | CO5 | Students will be able to learn sustainable building design process |
| | | | CO6 | Students will learn impact of built environment on surroundings |
| 2 | 1007 | Architectural representation & detailing 09 | CO1 | Students should able to understand different types of site specific services which could be incorporated in there design dissertation. |
| | | | CO2 | Students should be capable of developing design that integrates the building services into planning. |
| | | | CO3 | Students should be aware about sustainable design solutions. |
| | | | CO4 | Students will need to understand climate data analysis. |
| | | | CO5 | Students will need to understand the methods of waste water treatment and there calculations. |
| | | | CO6 | Students will need to understand the various firm norms to be considered while designing the projects which includes site level & building level. |
| | | | CO7 | Students shall understand the consideration for daylight and artificial light along with natural ventilation and HVAC in building. |
| | | | CO8 | Students will need to understand renewable energy strategies, waste management strategies. |
| 3 | 1009 | Advanced Theories 04 | CO1 | To understand the general Timeline of modernism and postmodernism. |
| | | | CO2 | Be able to interpret the various 'isms' that fall under their category of the past and present. |
| | | | CO3 | Demonstrate an understanding of the various timeline of Architectural development, historical, political-economic, and |



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|---|---|---|---|---|
| | | | | social-cultural layers of the 'isms', and research on these to form a consciously designed strategy and approach. |
| | | | CO4 | Articulate their stance and position as a designer within discourses of modernism and post modernism |
| | | | CO5 | Research and analyse information relevant to developing individual design interventions and propositions. |
| | | | CO6 | Demonstrate high quality communication, representation and , including written, verbal, graphical and model-based presentation |
| 4 | 1010 | Profession Practise 03 | CO1 | The student will Understand responsibilities of an Architect in practice. |
| | | | CO2 | The student will Understand and Evaluating role of Architect with duties and Liabilities. |
| | | | CO3 | The student will understand the concept of Arbitration and arbitration clause in contracts. |
| | | | CO4 | The student will understand and evaluate Conciliation and mediation its procedures and methods. |
| | | | CO5 | The students develops an understanding of his role in project work and the Relationship of Architect with client, contractor. |
| | | | CO6 | The students develops an understanding of regulatory and other Govt. Bodies. |
| 5 | 1011 | Design Dissertation 02 | CO1 | Students should able to develop the design proposal which includes conceptualizing and developing a design solution that addresses the identified architectural problem. |
| | | | CO2 | Innovative Design Exploration: The students should explore innovative and experimental approaches and challenge conventional norms, explore new design paradigms, and propose creative solutions that reflect their unique design philosophies. |
| | | | CO3 | Students should focus on integrating their design proposals seamlessly within the broader urban, cultural, and environmental contexts involving an in-depth analysis of the site, considering its historical significance, social dynamics, and ecological aspects responding harmoniously to the surroundings. |
| | | | CO4 | Students will develop their design considering the spatial organization, material choices, structural systems, and building performance. |



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|---|---|---|---|---|
| | | | CO5 | Students should strongly emphasis on ethical considerations and sustainable design principles that can contribute positively to society and the environment, addressing issues such as social equity, accessibility, energy efficiency, and climate resilience. |
| | | | CO6 | Students should evaluate and enhance the design's functionality and sustainability through continuous iterations, model making, and digital simulations |
| | | | CO7 | Students should hone their presentation and communication skills to effectively convey their design ideas to the professional audience which includes preparing comprehensive design documentation, architectural drawings, virtual walkthroughs, and persuasive oral presentations. |
| | | | CO8 | The student should aim to cultivate their ability to articulate and defend their ideas confidently. |
| 6 | 1012 | Advanced Building Construction and structures | CO1 | Knowing and understanding more about forms, building envelopes and Study and understanding of sustainable building materials. |
| | | | CO2 | Understanding structural systems and materials. Understanding the concept of intelligent structures and control of structural responses. |
| | | | CO3 | Understanding structural grids and construction techniques. |
| | | | CO4 | Developing innovative and creative ideas of built form and designing the suitable built form having the focus of sustainability, choosing appropriate materials, method of construction and prepare drawings giving construction details for the dissertation project. |
| | | | CO5 | Designing of wall sections based on the form. |
| | | | CO6 | Selection of appropriate structural system and its application to the design dissertation project based on the site conditions and project requirements. |

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# Master of Architecture (Project Management)

## Course Outcomes (CO), Program Outcomes (PO), Program Specific Outcomes (PSO)
## Course Outcomes (CO) 2022-2023

### SEMESTER 1

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | Th-01 | Management Theories - Principles & Practices | CO1 | To understand the nature and approaches of management. |
| | | | CO2 | To know the basic concept of planning and decision making. |
| | | | CO3 | To get the insights of various concepts of organising and organisation structure and leadership. |
| | | | CO4 | To have in depth knowledge of management control and controlling techniques. |
| | | | CO5 | Assume responsibility as a professional practitioner of a project management, applying its principles and practices while maintaining high standards of practice, making ethical judgements and decisions in a respectful, and sustaining professional standing through a commitment to life-long learning. |
| | | | CO6 | Analyse the unique attributes of construction activities and their impact on management practices. |
| | | | CO7 | Define the controlling function in management and Identify the elements necessary for effective control and discuss the prerequisites for successful control implementation. |
| | | | CO8 | Introduce the concept of organizational climate, decision-making processes, group decision-making dynamics, and the staffing process, covering recruitment, selection, and performance appraisal. |
| 2 | Th-02 | Law -1 : Legal Frame work for Construction -1 | CO1 | The student will Understand Architect's Professional liabilities and responsibilities in practice and Evaluating role of Architect with duties and Liabilities, his role in project work and the Relationship of Architect with client, contractor and Govt. Bodies |
| | | | CO2 | Architects Act 1972 in India -The students develops an understanding of Architects Act 1972 in India, with respect to Scope of work, Professional conduct, Scale of fees, etc. |



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|---|---|---|---|---|
| | | | CO3 | Introduce the international types of contracts and its documents, vocabulary related to contracts such as earnest money, liquidate damage, termination of contract, payment certificates etc. |
| | | | CO4 | Regulations, Conditions and requirements of qualification, equivalence etc. for International practice in countries other than India like: USA, UK, Europe, Gulf countries, Asian countries etc. |
| | | | CO5 | To know about different Architectural Competitions. |
| | | | CO6 | Understand the Registration process and continuation of registration of COA |
| | | | CO7 | An overview of various Acts relevant to the Architectural profession: Taxation laws like IT, Service Tax, etc. |
| | | | CO8 | An overview of various Acts relevant to the Architectural profession: like RERA ,Indian Contract Act, Environment related laws, etc. |
| 3 | Th-03 | Project Planning & scheduling Monitoring & control | CO1 | Understanding of the necessity of planning, it's types |
| | | | CO2 | Learning the techniques of preparation of project schedules by analysing the network diagrams, critical activities etc. |
| | | | CO3 | Developing the ability to understand the relationship between various project activities and their relationships and preparing project plans and schedules |
| | | | CO4 | Acquainting students with the project monitoring and controlling techniques related to schedule and cost |
| | | | CO5 | Understanding of the Quality management and control techniques and the safety management plans used on construction site for avoiding accidents |
| | | | CO6 | Integrating all the project planning & scheduling and monitoring techniques with project management information system and computer networking |
| 4 | St-01 | Construction Materials & its Management | CO1 | Demonstrate & define the scope of different construction Materials & their Management. |
| | | | CO2 | Analyse the characteristics of material and their applications in construction. |
| | | | CO3 | Recognize the necessity and importance of materials management in construction projects. |



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|---|---|---|---|---|
| | | | CO4 | Define the objectives and functions of materials management, including procurement, storage, transportation, and inventory control. |
| | | | CO5 | Classify and codify construction materials based on their properties and usage, enabling effective tracking and management of inventory. |
| | | | CO6 | Evaluate vendor performance using vendor rating and analysis techniques, considering factors such as quality, cost, and timeliness. |
| | | | CO7 | Describe the legal aspects of purchase in construction projects, including contracts, warranties, and dispute resolution. |
| | | | CO8 | Manage construction materials effectively through stores management, including inventory tracking, stocktaking, and distribution. |
| 5 | St-02 | Computer Application in Construction Management | CO1 | Define and categorize software applications utilized for proficient project management. |
| | | | CO2 | Evaluate the strategic use of software and conduct a comprehensive analysis of its diverse implications and significance. |
| | | | CO3 | Leverage the software and explore its practical applications in the context of project management. |
| | | | CO4 | Illustrate how software can be applied to achieve cfficient project solutions. |
| | | | CO5 | Demonstrate how software applications can be effectively utilized to attain efficient project solutions. |
| | | | CO6 | Illustrate the effective utilization of software applications to achieve efficient resources & material management |

## SEMESTER 2

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | Th-04 | Project Accounts & Economics | CO1 | Introduction to concept of accounting and management |
| | | | CO2 | Understanding the accounting mechanism and practices in India and preparing of financial statements matching expenses and revenues |



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|---|---|---|---|---|
| | | | CO3 | Analysing and preparing the financial statements, balance sheet, profit and loss account statements, fund flow statements |
| | | | CO4 | Awareness about the statutory requirement for accounting and auditing |
| | | | CO5 | Introducing to inflation accounting, creative accounting, social accounting and social audit |
| | | | CO6 | Highlighting the corporate reporting practices in India |
| 2 | Th-05 | Law - 2 Contract Management | CO1 | Identify the importance of contract management in construction industry |
| | | | CO2 | To understand the Contract Management Bid Cycle, Contract Conditions Interpretation By Parties To Contract, Obligation And Responsibilities Of The Parties, Protection And Indemnification, Bonds And Insurance |
| | | | CO3 | To know about the different types of contracts in construction industry |
| | | | CO4 | Contract Administration Inspection Of Work, Change Of Work, Rejected Work And Deficiencies, Deviations Extra Claim And Their Management, Contract Disputes And Their Settlement , Project Closure |
| | | | CO5 | To understand the general conditions of contract |
| | | | CO6 | To know about the Deviations in contract, Extra Claim And Their Management, Contract Disputes And Their Settlement, Project Closure. |
| | | | CO7 | To know about insurance, indemnity and arbitration clause in a construction contract" |
| | | | CO8 | To understand the Office Management Proper Record Keeping In Contract Administrating, Establishment Of Standard Procedure, Coordination Between Various Agencies Involve, Providing Data For Interpretation Of Contract Clauses. |
| 3 | Th-06 | Construction Equipment and personal management | CO1 | Know about the mechanization of construction equipment's like Earth Moving and Excavation and Transportation machines. |
| | | | CO2 | Understand selection and planning for the equipment, sizing of equipment's, role of equipment automation in Project Management. |
| | | | CO3 | Learning the concepts of owning, hiring, and leasing. |



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|---|---|---|---|---|
| | | | CO4 | Learning Capital expenditure, operating expenses, maintenance and repair cost, maintenance records and other types of cost of construction equipment's. |
| | | | CO5 | Understand the function, objectives, planning of Human resource management. |
| | | | CO6 | Learn different factors effecting human resource planning. |
| 4 | St-03 | Advanced Construction Methods & Techniques | CO1 | To analyse and explain the conceptual understanding of large span structures. |
| | | | CO2 | Identify and classify specialized equipment required for the safe and efficient erection of large span structures. |
| | | | CO3 | Conduct a market survey to gather information about advanced building materials and their applications, properties, advantages, and limitations. |
| | | | CO4 | Evaluate the conceptual understanding of high-rise buildings in normal and adverse conditions considering site topography. Analyse its construction details, service systems, and structural systems for high-rise buildings and marine structures. |
| | | | CO5 | To understand the conceptual basis of prefabrication in building construction and the concept of modular coordination. |
| | | | CO6 | Identify specialized equipment required for the erection of prefabricated structures to understand the essential processes involved in manufacturing as well as handling of prefabricated components and its construction details. |
| 5 | St-04 | Research Method in Construction | CO1 | Formulate research problem |
| | | | CO2 | Analyse literature review and find research gaps to finalize research objectives. |
| | | | CO3 | Understand the various methods of research and steps involved therein. |
| | | | CO4 | Decipher the collected data as Qualitative research and Quantitative research. |
| | | | CO5 | To demonstrate knowledge of research processes (reading, evaluating, and developing) |
| | | | CO6 | Apply one or more methodologies in order to derive a measurable solution/conclusion for a selected topic. |
| | | | CO7 | To be able to define and develop a possible research interest area using specific research designs |
| | | | CO8 | Identify the need of ethics in research |



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## SEMESTER 3

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | Th-07 | Project Appraisal and Finance Management | CO1 | Appraising students about project formulation and it's stages like project identification, need, preliminary analysis, market & technical survey, project estimate and techno-economic feasibility report |
| | | | CO2 | Preparing project estimation, method of cost estimating, Detailed cost estimate |
| | | | CO3 | Correlating project costing with concepts of cash flow, time value of money, cost of capital |
| | | | CO4 | Understanding the methods of project appraisal such as NPV, BCC IRR, ARR, payback period used for private and Government projects. Analysis practices of risk, different method, selection of project and risk mitigation |
| | | | CO5 | Evaluating the need for working capital, sources, procedures, practices in construction business |
| | | | CO6 | Learning about working capital management by studying the policies, estimating working capital needs, inventory management, accounts management and payment management. |
| 2 | Th-08 | Construction Marketing Management | CO1 | Understanding the impact of different factors like internal and external environment, socio-economic, demographic, political, technological and legal environment, nature on the marketing strategy that can be implemented for construction projects. |
| | | | CO2 | Basics of marketing: features of marketing of consumer goods, industrial products and services, product and marketing, marketing organization structures, societal role of marketing |
| | | | CO3 | Understanding the basic features of marketing including different consumer goods, industrial products and services, product and marketing, marketing organization structures, societal role of marketing. |
| | | | CO4 | Students learn about Marketing projects: characteristics of construction projects, sources of information, pre-qualification documents, different strategies , legal aspects, impact of joint ventures, collaborations and alliances, impact of globalization and privatization, strategies for project export |



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Ref. No. : BV / COA / N.M./ Date :

| | | | | |
|---|---|---|---|---|
| | | | CO5 | Marketing real estate: characteristics of real estate, demand and supply relationship, segmentation, product mix, pricing strategies, advertising strategies, legal aspects |
| | | | CO6 | Understanding the Marketing products for construction: characteristics of construction materials and equipment, strategies for marketing of materials and equipment for construction, demand surveys, advertising strategies, communication, exhibitions and product demonstrations, pricing strategies, financing arrangements Evaluate the characteristics of construction materials and plan out strategies to evaluate those construction materials construction projects |
| 3 | Th-09 | Managerial Decision Making | CO1 | To understand about the various decision making aspects to be considered before taking any decision for project planning. |
| | | | CO2 | To understand about the different decision making methods and analysis. |
| | | | CO3 | To understand the number of factors to be taken into consideration while preparing decision analysis for different situations. |
| | | | CO4 | To understand the different tools which can be used for decision analysis matrix. |
| | | | CO5 | To understand the contingencies involved in various analysis matrix and take decision according to the most favourable conditions. |
| | | | CO6 | Evaluate effective project execution and control techniques that results in successful project completion |
| 4 | St-05 | Construction Management Studio | CO1 | To understand the importance of prefabrication and its types. |
| | | | CO2 | To understand the various modules involved in prefabricated building construction technology and connectivity amongst them. |
| | | | CO3 | To understand the limitations and capabilities of specialized equipment required for the fabrication, transportation, and assembly of prefabricated modules. |
| | | | CO4 | To understand the volume, machineries and cost involved in opting for prefabrication construction technology. |
| | | | CO5 | Formulate design strategies that account for the manufacturability, transportability, and efficient execution of prefabricated components. |
| | | | CO6 | Analyse various construction projects where prefabrication and modular coordinated elements can be effectively employed by |



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| | | | | |
|---|---|---|---|---|
| | | | | evaluating factors such as project complexity, scale, budget, and timeline. |
| 5 | St-06 | Dissertation Stage - I | CO1 | Students Understands the different strategies and stages for research work. |
| | | | CO2 | Students learn about the planning, design and analytical tools and techniques. |
| | | | CO3 | Identify the problem/issues with respect to Project management and define the scope with regards to the different aspects in Construction Industry |
| | | | CO4 | Students learn about the communication skill to present the selected topic of project, with critical remarks and assessment from the counsellor. |
| | | | CO5 | Review all possible areas grey areas & summarize it in the form of abstract. |
| | | | CO6 | The students realise the importance of topic of the Dissertation which is a value addition for the existing knowledge in the field.<br>Students learn about the research process & research input |

**SEMESTER 4**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | St-07 | Dissertation -II | CO1 | Student understands about how to identify & finalize the problem in for Dissertation. Understand the problem and define the problem in the precise terms. |
| | | | CO2 | Student learn about the preliminary literature survey, primary & secondary data collection process etc. |
| | | | CO3 | Student understand about how to finalize & use different strategies, methods for the solution to the problem by analytical/simulation/experimental methods. |
| | | | CO4 | Students learn about how to carry out comparative analysis of the collected data & finalize the solution program. |
| | | | CO5 | Students understands about presenting the solution of research topic selected through proposing of policies, designing the module or creating some manual for the problem. |



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|---|---|---|---|---|
| | | | CO6 | Student are encouraged to publish at least one paper based on the work in reputed International / National Conference. |
| | | | CO7 | The students realise the importance of topic of the Dissertation which is a value addition for the existing knowledge in the field.<br>Students learn about the research process & research input |
| | | | CO8 | Students Understands how to carryout detail research & write down the concerns, to produce an illustrative, written dissertation in newer and more relevant areas of research / design and plan intervention / application |

## Bachelor of Vocational (Interior Design)

**Course Outcomes (CO), Program Outcomes (PO), Program Specific Outcomes (PSO)**
**Course Outcomes (CO) 2022-2023**

**SEMESTER 1**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 101 | Interior Design Studio 1 | CO1 | Student Should Understand the difference between design and décor. And its relation with provided space |
| | | | CO2 | Student Should Understand and consider the anthropometry and its relation to spaces. |
| | | | CO3 | Student Should categorize the difference between anthropometry and ergonomics. |
| | | | CO4 | Students should understand the scales and proportions through practical exercises and theory. |
| | | | CO5 | Students should start applying the knowledge on space and create impactful design. |
| | | | CO6 | Students should be exposed to other designers, their works and style. |
| | | | CO7 | Students should be start applying basic principles, concepts and fundamentals to design project. |
| 2 | 102 | Interior Construction -1 | CO1 | Students should understand the meaning of structural component, which are the structural component and understand |



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| | | | | |
|---|---|---|---|---|
| | | | | basic components of a building and method of construction and representation of the same. |
| | | | CO2 | Students should understand the meaning and function of elements of built structure and its importance, representation of the same |
| | | | CO3 | Students should understand Brick walls for interior division of spaces and other uses (half brick and one brick thickness). |
| | | | CO4 | Students should understand and describe Light weight concrete blocks, hollow blocks, aerated concrete blocks |
| | | | CO5 | Students should develop the understanding about application of joinery and joints its limitations. And be able to identify the different types of Joinery and joints used in building construction. |
| | | | CO6 | Students should identify and understand the various types Doors, windows, ventilators with focus on different modes of operation and their jamb linings with application. |
| | | | CO7 | Students should identify, Describe and understand the types of Lintels and Arches based on structure and its materials. as well as Structural glazing |
| | | | CO8 | Students should identify, understand Doors and windows types based on mode of operation, material and positioning |
| 3 | 103 | Interior Services - 1 | CO1 | Attain understanding of cold and hot water distribution systems by identifying various water supply pipes and joints, and recognizing fixtures and fittings used for water distribution. |
| | | | CO2 | Comprehend soil and waste water disposal systems, distinguishing between types of sanitary pipes and joints for waste water disposal, while grasping principles for efficient soil and waste water drainage. |
| | | | CO3 | Acquire plumbing knowledge for various settings, showcasing the ability to design layouts for kitchens, toilets, baths, and other facilities, while understanding specific requirements for installations involving washing machines, dishwashers, refrigerators, and loft tanks. |
| | | | CO4 | Explore detailed design aspects of sanitary fixtures, analysing considerations for bath tubs, rain showers, shower systems, and Jacuzzis, while integrating fixture knowledge for functional and aesthetically pleasing sanitary spaces |



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| | | | | |
|---|---|---|---|---|
| | | | CO5 | Develop distribution layouts ensuring optimal water flow and pressure, and design effective disposal layouts for wastewater to maintain hygiene and minimize blockages. |
| | | | CO6 | Attain understanding of cold and hot water distribution systems by identifying various water supply pipes and joints, and recognizing fixtures and fittings used for water distribution. |
| 4 | 104 | Communication Skill - 1 | CO1 | The students should enhance their verbal and non-verbal communication. |
| | | | CO2 | The students should enhance their reading and writing skills. |
| | | | CO3 | The students should enhance their conversational ability such as presentation (written - graphics and audio) face to face etc. |
| | | | CO4 | The students should articulate their body language and vocal skills. |
| | | | CO5 | The students should know how to explain/defend his/her design by enhancing their communication skill. |
| | | | CO6 | Understanding the importance of personal grooming and confidence building. |
| 5 | 105 | Int. Drawings & Representation Skills -1 | CO1 | The students will be thought the understanding of the basic to introduction to graphics. |
| | | | CO2 | The students will be thought the understanding of the introduction of tools and uses. |
| | | | CO3 | The students will be thought the knowledge of standard drawings. |
| | | | CO4 | The students will be thought the understanding of the basic terminology Introduction to various architectural symbols and their implementation in interior design. |
| | | | CO5 | The students will be thought the understanding of the basic terminology Introduction of scales. |
| | | | CO6 | The students will be thought the understanding of the basic drafting of lines, shapes, basics of scale implementation. |
| 6 | 106 | Basic Design Studio -1 | CO1 | Understand the core principles of design, including balance, contrast, emphasis, rhythm, and unity. |
| | | | CO2 | Recognize how these principles apply to various design disciplines such as graphic design, web design, and interior design. |
| | | | CO3 | Develop the ability to think creatively and generate innovative design concepts. |



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|---|---|---|---|---|
| | | | CO4 | Explore the use of shapes, lines, textures, and patterns in design. Understand how these elements contribute to the overall visual impact of a design |
| | | | CO5 | Gain a solid understanding of colour theory, including colour harmonies, psychology of colour, and colour symbolism. |
| | | | CO6 | Gain insights into layout design, including grid systems, alignment, and visual hierarchy. |
| | | | CO7 | Develop the ability to convey messages and ideas through visual elements. |
| 7 | 107 | Interior Material 1 | CO1 | Apply knowledge of construction material, methods and processes to transform idea in to design; |
| | | | CO2 | Develop the design for Natural & Man made material texturing for wall; |
| | | | CO3 | Compare different materials and design of for False sealing, flooring and metal suiting the purpose/functions and principles of design. |
| | | | CO4 | Study the market research and current trend analysis will be cumulated through Market Research and Presentations; |
| | | | CO5 | Understanding of the material properties, feasibility, availability, durability and sustenance to climatic conditions and also the aesthetic value it will add with its use. |
| | | | CO6 | Student will use texture to add what's referred to as 'visual weight'; |
| 8 | 108 | History of Furniture -1 | CO1 | Gained the knowledge of furniture over different movements in design, furniture terminology, methods of joinery, |
| | | | CO2 | Learned and understood the history of furniture, ancient civilization, preservation, and furniture development in different eras. |
| | | | CO3 | Applying of different styles and materials in designing |
| | | | CO4 | Able to Analyse the typical furniture style and differentiate various forms |
| | | | CO5 | Students will evaluate the furniture style with respect to various factors like climate, social factors, life style, materials |

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## SEMESTER 2

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 201 | Interior Design Studio 2 | CO1 | Student Should Understand and Learning the concept of design |
| | | | CO2 | Student Should understand and analyses the space and classify the project requirements. |
| | | | CO3 | Student should categorize the actual requirements of site and execute on given project |
| | | | CO4 | Applying their understanding of theme of concept and analysis on site and design. |
| | | | CO5 | Student Should observe, analysis, document of case studies and its use in the project. |
| | | | CO6 | Students should define the space and concept application in their design through text, drawings, photographs , etc. |
| | | | CO7 | Student Should prioritize the requirements and justify the work according that |
| 2 | 202 | Interior Construction -2 | CO1 | Students should have the knowledge and understanding of various systems of partition system such as Wooden framed fixed partition with single/double skin, Aluminium framed Partition, Dry wall partition systems, Full glass partition with architectural hardware. |
| | | | CO2 | Students should have the knowledge and understanding of panelling system such as Wall panelling in different materials |
| | | | CO3 | Students should have the knowledge and understanding of Wall Cladding Wet and Dry wall cladding in different materials. |
| | | | CO4 | Student should able to create detailed working drawing of partition system assembly and joinery. |
| | | | CO5 | Student should able to create detailed working drawing of Panelling system assembly and joinery. |
| | | | CO6 | Student should be aware of Modular furniture's analysing the need of it and its criteria for selection, materials used for modular furniture |
| | | | CO7 | Students should have the knowledge of constructional details of Modular Furniture. |
| | | | CO8 | Student should be aware of future trends in furniture design as per market requirement |



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|---|---|---|---|---|
| 3 | 203 | Interior Services - 2 | CO1 | Grasp fundamental electrical systems for interiors, acquiring an introduction and understanding basic concepts and components of installations. |
| | | | CO2 | Examine diverse electrical system designs, covering materials, specifications, and types, while showcasing the ability to select suitable materials and components based on specific design needs. |
| | | | CO3 | Acquire proficiency in electrical layout diagrams and symbols for design, enabling interpretation and creation of electrical plans within interior spaces. |
| | | | CO4 | Grasp residential lighting diversity, identifying various options and gaining knowledge about fittings, fixtures, and switches used within interior spaces |
| | | | CO5 | Explore lighting industry automation, gaining insight into the concept and understanding the basics of automated lighting control systems and their practical applications |
| 4 | 204 | Communication Skill - 2 | CO1 | The students should learn and enhance their Interpersonal skills on how to interact and communicate with others. |
| | | | CO2 | The students should learn and enhance their Analytical writing skills to develop and articulate their own opinions based on evidence, communicate complex ideas and concepts in a clear and concise manner. |
| | | | CO3 | The students should learn Business writing skills which will help them to develop effective communication skills in a professional setting through writing. |
| | | | CO4 | The students should learn Technical writing skills which will help them to develop their writing skills with respect to preparing and publishing reports, manuals, guidelines, articles and other forms of documentation. |
| | | | CO5 | The students should develop the vocabulary skills |
| | | | CO6 | Students will learn the skills to participate in debates, Skits, and group discussion. |
| 5 | 205 | Int. Drawings & Representation Skills -2 | CO1 | The students will be thought understanding and implementation of scale in design. |
| | | | CO2 | The students will be thought understanding of drafting plan, elevation, and levelling in sections. |
| | | | CO3 | The students will be thought understanding of the techniques in skill drafting and perspectives. |



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|---|---|---|---|---|
| | | | CO4 | The students will be thought understanding of drafting perspective view in one point. |
| | | | CO5 | The students will be thought understanding of application on basic principles of sociography to the drawings. |
| | | | CO6 | The students will be expected with submission of sheets for assessment for the semester. |
| 6 | 206 | Basic Design Studio -2 | CO1 | Understand fundamental design principles such as balance, contrast, rhythm, proportion, and unity |
| | | | CO2 | Understand the importance of designing with the end user in mind, focusing on usability and user experience. |
| | | | CO3 | Study the arrangement of elements to create harmonious and visually appealing compositions. |
| | | | CO4 | Analyse Anthropometry and assess it effects of ergonomics on interior design |
| | | | CO5 | Explore the effects of space modulation and the current technological advancements |
| | | | CO6 | Design Spaces based on themes post thorough analysis and Analysis of the same. |
| 7 | 207 | Interior Material 2 | CO1 | Apply knowledge of construction material, methods and processes to transform idea in to design; |
| | | | CO2 | Develop the design for False sealing, flooring and metal; |
| | | | CO3 | Compare different materials and design of for False sealing, flooring and metal suiting the purpose/functions and principles of design. |
| | | | CO4 | Interaction with a space is visual, the first physical contact a person will have with her own space is the Floorings. |
| | | | CO5 | Understanding of the material properties, feasibility, availability, durability and sustenance to climatic conditions and also the aesthetic value it will add with its use. |
| | | | CO6 | Study the market research and current trend analysis will be cumulated through Market Research and Presentations; |
| 8 | 208 | History of Furniture -2 | CO1 | Gained the knowledge of English furniture, Industrialization, art and craft movements in furniture design. |
| | | | CO2 | Understood the various eras and movements in art and furniture viz art nouveau, de-still, art deco, oriental furniture, western etc. |
| | | | CO3 | Applying of different styles and materials in designing |



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|---|---|---|---|---|
| | | | CO4 | Able to Analyse the typical furniture style of japan, china and India, traditional and colonial. |
| | | | CO5 | Able to evaluate a typical furniture style and differentiate. |
| | | | CO6 | Able to Create or compose functional furniture with the different context of the built. |

**SEMESTER 3**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 301 | Interior Design Studio 3 | CO1 | Student should associate the project for developing project understanding. |
| | | | CO2 | Student Should understand and analyses the space and classify the project requirements. |
| | | | CO3 | Student should able to analyse specific user requirements |
| | | | CO4 | Student should able to develop proposed project which would be appropriate to the given site contact and users |
| | | | CO5 | Student Should observe, analysis, document of case studies and its use in the project. |
| | | | CO6 | Student should adapt relevant sustainable prices and material while selection |
| | | | CO7 | Students should define the space and concept application in their design through text, drawings, photographs , etc. |
| 2 | 302 | Interior Construction -3 | CO1 | Student should identify and have detail understanding of different structural systems for buildings Load bearing brick/stone masonry, its application in interior field. |
| | | | CO2 | Student should have detail understanding of RCC frame structure with column, beam, slab, cantilevers etc., and its application in interior field. |
| | | | CO3 | Student should have the knowledge and detail understanding of Steel framed construction with various rolled sections in the field of interior designing. |
| | | | CO4 | Student should develop understanding of Floor Systems such as Single floor in wood and steel with diffcrent floor finishes and double floor in steel. |
| | | | CO5 | Student should have the understanding of stairs such as Single flight wooden staircase and dog-legged RCC, metal staircase. |



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|---|---|---|---|---|
| | | | CO6 | Student should have the knowledge of Principles of steel spiral stairs |
| | | | CO7 | Student should have the understanding of Pitch roof/lean-to roof in steel with coated metal sheets, colour clay tiles and water proofing of flat terrace and toilet |
| | | | CO8 | Student should able to create detailed working drawing of various structural systems, Floor system, Roofing systems assembly and joinery. |
| 3 | 303 | Interior Services - 3 | CO1 | Introduction to HVAC concepts, covering fundamental components and roles in indoor comfort and air quality maintenance. |
| | | | CO2 | Attain knowledge of factors affecting human comfort in indoor spaces, encompassing parameters like temperature, humidity, and air movement, contributing to understanding of thermal comfort principles. |
| | | | CO3 | Master the fundamentals of natural ventilation systems and their benefits, while gaining the ability to design spaces that encourage optimal natural air circulation, thereby demonstrating a comprehension of natural ventilation principles. |
| | | | CO4 | Develop heat load calculation skills for precise HVAC sizing in interior spaces, considering factors that influence heat gain and loss within buildings. |
| | | | CO5 | Gain insights into various air conditioning methods, involving AC agency perspectives, while studying equipment, components, and systems used in air conditioning. Understand and evaluate selection criteria for appropriate air conditioning systems, considering factors like efficiency, capacity, and suitability for different environments. |
| | | | CO6 | Master ducting principles for central air conditioning, including designing duct layouts and strategic placement of air conditioner outlets. Understand the concept and implementation of mechanical ventilation, recognizing its role in maintaining indoor air quality and learning when and how to employ such systems. |
| | | | CO7 | Familiarize with acoustic basics and their importance in interiors, and learn how to design spaces with optimal acoustic conditions for enhanced comfort. |



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| | | | | |
|---|---|---|---|---|
| 4 | 304 | Communication Skill - 3 | CO1 | Develop their leaner skills of critical appreciation of design |
| | | | CO2 | Students will learn to analyse the design. |
| | | | CO3 | Students should enhance and sharpen their convincing skills. |
| | | | CO4 | Students should develop their Oratory skills. |
| | | | CO5 | Students should develop effective communication skills in the context of interior design profession. |
| | | | CO6 | Students should analyse and describe interior work carried out by any professional designer. |
| 5 | 305 | Int. Drawings & Representation Skills -3 | CO1 | The students will be introduced to computer aided design languages in this semester AutoCAD. |
| | | | CO2 | The students will be thought basic terminology used in AutoCAD. |
| | | | CO3 | The students will be thought implementation of AutoCAD software in interior design studio projects. |
| | | | CO4 | The students will be thought the introduction to colour and line type in AutoCAD -<br>• Line type, line type scale, line weights<br>• How to create a custom simple line type<br>• AutoCAD command list |
| | | | CO5 | The students will be thought introduction and implementation of enhanced 3 D- extruding in AutoCAD. |
| | | | CO6 | The students will be thought implementation of AutoCAD with a design project for next semester and assessment for the semester progress marking. |
| 6 | 306 | Environmental Studies -1 | CO1 | Examine the climatic factors that lead towards the thermal comfort in humans considering the interface of Interior design |
| | | | CO2 | Analyse the impact of design choices on energy consumption, resource utilization, and indoor air quality. |
| | | | CO3 | Investigate sustainable material choices for interior design, considering factors such as renewable resources, recycled content, and durability. |
| | | | CO4 | Explore the importance of water conservation as an effective energy efficient strategy in Interior Design |
| | | | CO5 | Examine strategies for optimizing energy efficiency within interior spaces through lighting, HVAC systems, and insulation. |



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| | | | | |
|---|---|---|---|---|
| | | | CO6 | Discuss the role of building materials and construction methods in reducing the environmental impact of Interior design |
| | | | CO7 | Analyse real-world case studies of environmentally conscious interior design projects. |
| | | | CO8 | Familiarize with relevant industry standards, green building certifications, and local regulations related to sustainable interior design. |
| 7 | 307 | Interior Material 3 | CO1 | The utilization of liquid waterproofing membrane, cementitious materials, polyurethane liquid membrane, and bituminous material are common in the waterproofing of buildings. |
| | | | CO2 | Various inorganic and mineral compounds are combined with bromine, phosphorus or nitrogen and used as flame retardants or as elements of flame retardant systems. |
| | | | CO3 | Application of the most common thermal insulation materials are polystyrene foam, mineral wool and polyurethane foam, which are used in buildings both as thermal insulation and as effective acoustic insulation. |
| | | | CO4 | The Outdoor Recreation Infrastructure Scheme (ORIS) supports the development of new outdoor recreational infrastructure and the necessary repair, enhancement; |
| | | | CO5 | Study the market research and current trend analysis will be cumulated through Market Research and Presentations; |
| 8 | 308 | Interior Design Studio -3 | CO1 | Students to Remember the functionality, space usage and concept/theme, use of contemporary materials, construction techniques and advanced services for the design studio. |
| | | | CO2 | Students will be able to understand and distinguish the hospitality spaces and commercial environment. |
| | | | CO3 | Applying of planning skills, styles and materials in designing large fine-dining restaurant, for a realistic site with 150sqm. (Or commercial interior spaces /branch office of Bank, Branch office of Multi National Corporation etc.) |
| | | | CO4 | Able to Analyse the issues pertaining to the designing and developing the spaces with appropriate material selection |
| | | | CO5 | Evaluate the spaces with relevant to hospitality industry and its users |



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|---|---|---|---|---|
| | | | CO6 | Able to Create ideal spaces for effective use of the hospitality spaces and commercial environment. |

## SEMESTER IV

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 401 | Interior Design Studio 4 | CO1 | Student should will demonstrate their own unique design style and approach while considering the needs of commercial clients and the use of eco-friendly materials and practices. |
| | | | CO2 | Student should develop the skills to effectively plan and layout interior spaces for various types of commercial activities, such as retail stores, offices, and hospitality venues. |
| | | | CO3 | Student should gain knowledge and understanding of eco-friendly materials and practices that can be, reducing negative environmental impacts and promoting sustainability. |
| | | | CO4 | Student should explore how the design of interior spaces can be influenced by and integrated with the surrounding environment, considering factors such as natural light, views, and cultural context. |
| | | | CO5 | Student should achieve individual interpretations through client profiling, case studies, and framing of requirements. |
| | | | CO6 | Student should develop the ability to understand client needs and preferences, conduct case studies of relevant projects, and effectively communicate and interpret client requirements |
| | | | CO7 | Student should explore advanced knowledge of materials used, construction techniques, modular furniture |
| 2 | 402 | Interior Construction -4 | CO1 | Student should develop understanding of Sliding folding partition in metal and glass and has ability to produce detailed working drawing for the partitioning systems. |
| | | | CO2 | Student should understand Thermal/Acoustical partition and panelling, movable partitions in terms of materials and finishes, acoustics and thermal insulation |
| | | | CO3 | Student should develop understanding of False Ceiling including Gypsum board ceiling, modular ceiling systems in various materials and its Acoustics and Thermal Insulation techniques in sustainable Design, and to have ability to create detailed working drawing for the same. |



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|---|---|---|---|---|
| | | | CO4 | Student should have the knowledge and understanding of Raised flooring Systems for commercial spaces and I.T. rooms also has ability to produce detailed working drawing for the same. |
| | | | CO5 | Students should have the knowledge of sustainable design concepts and techniques, such as the use of recycled materials and energy-efficient solutions, in partitioning systems, false ceilings, and false floors. |
| | | | CO6 | The student should be familiar with the relevant building codes and regulations for partition system, false ceilings, and false floors in order to ensure that the designs and drawings adhere to these codes. |
| | | | CO7 | Student should have the ability to adapt designs and drawings to various requirements and restrictions, as well as the development of problem-solving skills. |
| | | | CO8 | Student should be aware of future trends in furniture design as per market requirement |
| 3 | 403 | Interior Services - 4 | CO1 | Understand illumination standards, design artificial lighting, and calculate power density in interiors. |
| | | | CO2 | Learn daylight integration and control techniques for optimized lighting with timers and sensors |
| | | | CO3 | Explore diverse illumination techniques (ambient, task, accent) and their contributions to the overall lighting scheme |
| | | | CO4 | Examine interior lighting fixtures, fittings, and specialized systems for malls or displays |
| | | | CO5 | Gain insights into standards and energy codes for interior electrical services, enabling design alignment with safety and energy efficiency regulations. |
| | | | CO6 | Discover lighting industry automation's role, benefits, and applications in understanding automated lighting control systems. |
| 4 | 404 | Communication Skill - 4 | CO1 | Apply graphical language and representation techniques |
| | | | CO2 | The students should enhance their reading and writing skills. |
| | | | CO3 | The students should articulate their body language and vocal skills. |
| | | | CO4 | The students should know how to explain/defend his/her design by enhancing their communication skill. |



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| | | | | |
|---|---|---|---|---|
| | | | CO5 | The students should study proposals, progress reports, trip reports, completion reports, investigation reports, feasibility studies, or evaluation reports. |
| | | | CO6 | The students should learn Communication is a two-way process which involves transferring of information or messages from one person or group to another. |
| 5 | 405 | Int. Drawings & Representation Skills -4 | CO1 | The students will be thought understanding and introduction to computer aided design language SKETCHUP. |
| | | | CO2 | The students will be thought the understanding of the basic terminology and Interior designing using sketch up. |
| | | | CO3 | The students will be thought the understanding of the basic terminology and Interior designing using Sketch up in interior design project. |
| | | | CO4 | The students will be thought the understanding to future of sketch up. |
| | | | CO5 | Understanding scale concept and limits in sketch up drawing tools, modify tools. |
| | | | CO6 | Implementation with a design project for the semester with Sketch ups. |
| 6 | 406 | Int Professional Practice -1 | CO1 | Understanding the importance of estimation and cost analysis in project management |
| | | | CO2 | Assess the need for estimation and cost analysis as an integral part of profession |
| | | | CO3 | Understanding the specification sheet and the units of measurement to finally assess the professional fees |
| | | | CO4 | Evaluating the project costs by using the various methods of estimation from lump-sum to item rate methods. |
| | | | CO5 | Sensitize the students towards the site by regular site visits and improve the observation skills |
| | | | CO6 | Determining the project costing till the end of the project by assuming the tangible and in-tangible expenses involved. |
| 7 | 407 | Int Working drawing -1 | CO1 | Students to remember the representation of various methods and techniques of wood, plywood, block boards, artificial boards, metal, glass, stone etc. in various finishes. |
| | | | CO2 | Understand how to draw and prepare working drawings and related details of the furniture. |
| | | | CO3 | Applying representation techniques and drafting the technical drawings and details. |



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|---|---|---|---|---|
| | | | CO4 | Able to analyse the spatial measurements and materials dimensions in the designing and executing an interior project. |
| | | | CO5 | Evaluate the various schedules and specifications of the interior project. |

**SEMESTER V**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 501 | Interior Design Studio 5 | CO1 | Students should refine their presentation skills to effectively communicate their design concepts and ideas to clients, utilizing a variety of presentation techniques, including digital renderings, models, and mood boards. |
| | | | CO2 | Students should define the space and concept application in their design through text, drawings, photographs , etc. |
| | | | CO3 | Students should demonstrate professionalism in their approach to design, adhering to ethical practices, industry standards, and the principles of design |
| | | | CO4 | Students should have the opportunity to showcase their individual strengths and abilities in conceptualizing and executing a professional-quality design project. |
| | | | CO5 | Student should develop appropriate graphic skills and presentation techniques to explain their project. |
| | | | CO6 | Students should ultimate objective is for the learner to produce a design presentation that demonstrates their skill |
| | | | CO7 | Student creativity, and ability should meet the needs and desires of commercial clients while integrating eco-friendly practices and creating visually appealing and functional spaces. |
| 2 | 502 | Int Working drawing -2 | CO1 | Student should be able to prepare working drawing and details of Residential furniture systems using various materials such as wood, plywood, block boards, artificial boards, metal, glass, stone etc. in various finishes. |
| | | | CO2 | Student should be able to prepare working drawing and related details of the Executive Desk with side / back credenza. |
| | | | CO3 | Student should be able to prepare working drawing and related details of the Reception Counter |
| | | | CO4 | Student should be able to prepare working drawing and related details of the Conference Table |



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| | | | | |
|---|---|---|---|---|
| | | | CO5 | Student will be able to prepare working drawing and related details of the Reception Counter Shop front / Show window |
| | | | CO6 | Student will be able to prepare working drawing and related details of the Bank Counter/Ticket booking Counter |
| 3 | 503 | Interior Services - 5 | CO1 | Acquire insights into principles of communication, safety, and security for interior spaces, emphasizing their crucial role in efficient design and safe environments. |
| | | | CO2 | Engage in a comprehensive study of communication systems, covering various types such as data and telephone systems, and grasp their applications and the significance of server rooms. |
| | | | CO3 | Undertake an in-depth study of fire safety systems, encompassing fire-fighting provisions, types, applications, fire-retarding materials, fire-rated doors, and their roles in enhancing safety. |
| | | | CO4 | Focus on access control and CCTV, understanding their significance in security maintenance and gaining insights into their roles in surveillance. |
| | | | CO5 | Introduce security principles within interior spaces, exploring diverse system types and their applications for environment safeguarding. |
| | | | CO6 | Acquire insights into principles of communication, safety, and security for interior spaces, emphasizing their crucial role in efficient design and safe environments. |
| 4 | 504 | Research Methodology | CO1 | Students will be able to remember the interior design objectives and methodologies, various developments and analytics. |
| | | | CO2 | Students will understand fundamentals of theoretical aspects of studying interior spaces based on varying situations and conditions. |
| | | | CO3 | Be able to Apply research and analysis methods in interior design. |
| | | | CO4 | Analyse the spaces with critical thinking, spatial assessment, data analytics etc. |
| | | | CO5 | Evaluate the critical areas in obstacles identifications and designing. |
| | | | CO6 | Students will be able to conduct a research study /documentation and data collection, critical analysis and evaluation. |
| 5 | 505 | | CO1 | Introduction to computer aided design language -REVIT |



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| | | Int. Drawings & Representation Skills -5 | CO2 | Basic Terminology and Interior designing using Revit. |
| | | | CO3 | Creating a 3D building model with walls, curtain walls, windows, and doors. Adding component features, such as furniture and equipment. |
| | | | CO4 | Linking CAD and Revit files as the basis of a project. |
| | | | CO5 | Creating Levels and Grids as datum elements for the model. |
| | | | CO6 | Implementation with a design project for the semester with AutoCAD. |

**SEMESTER VI**

| SR. NO | SUB CODE. | SUBJECT NAME | CO | COURSE OUTCOMES |
|---|---|---|---|---|
| 1 | 601 | Interior Design Studio 5 | CO1 | The students should demonstrate knowledge of the staging of a project from client engagement, design and documentation, tendering work, superintendence and construction administration through to post-construction in an office. |
| | | | CO2 | The students should understand good practice management including the resource, financial, client and risk management skills required to establish and run an architectural practice in office on ongoing site. |
| | | | CO3 | The students will enhance the professional development skill to deal with the client, labour, vendor, etc. |
| | | | CO4 | The students will understand and assess the importance and process of tendering with first-hand experience in complete filling of a tender document for a site work in practical. |
| | | | CO5 | The students will reflect the core ethics in the profession and recognize the code of conduct with various professional stake holders in the society. |
| | | | CO6 | Students will categorize and learn the office and project structure to understand the work allocation at various project stages of the PROJECT. |
| | | | CO7 | The students will learn the evaluation of the financial remunerations for varied stages of work and accounting involved in the same PROJECT. |
| | | | CO8 | The student will be evaluated based upon the submission of a detailed report of the experience gained during the professional training. |



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