### VISVESVARTA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examinations 2024

**M.Arch SUSTAINABLE ARCHITECTURE**

Choice Based Credit System (CBCS) and Outcome Based Education (OBE)

**I Semester**

| SI No | Course | Course Code | Course Title | Lecture | Studio / Seminar | Tutorial / Skill Development Activities | Duration hours | CIE Marks | SEE Marks | | Total Marks | Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **L** | **S** | **SDA** | | | **Theory** | **VivaVoce** | | |
| 1 | ISC/PCC | MASA101 | Integrated Sustainable Studio I | 2 | 8 | - | - | 100 | - | 100 | 200 | 10 |
| 2 | PCC | MASA102 | Building Physics and Passive Design | 2 | - | 2 | 3 | 50 | 50 | - | 100 | 3 |
| 3 | PCC | MASA103 | Fundamentals of Lighting and HVAC | 2 | 1 | - | 3 | 50 | 50 | - | 100 | 3 |
| 4 | PCCL | MASA104 | Performance Evaluation of Buildings - I | 1 | 2 | 1 | - | 100 | - | - | 100 | 3 |
| 5 | PSC | MASA105 | Sustainability and Environment | 3 | - | 1 | 3 | 50 | 50 | - | 100 | 3 |
| 6 | PEC - I | MASA116x | Professional Elective Course - I | 1 | 1 | - | - | 100 | - | - | 100 | 2 |
| 7 | NCMC | MRMI107 | Research Methods for Planning & Architectureal Studies | Online courses ( online.vtu.ac.in) | | | | | | | | PP |
| | | | **TOTAL** | 11 | 12 | 4 | 9 | 450 | 150 | 100 | **700** | **24** |

Note:  **ISC**- Integrated Studio Course, **PCC** - Professional Core Course**, NCMC** - None Credit Mandatory Course, **PSC** - Professional Supportive Course to the specialization,  **PCCL** - Professional Core Course lab, **PEC** - Professional Elective Course **AUD/AEC** - Audit Course / Ability Enhancement Course,  **L** - Lecture, **S** - Studio,  **T/SDA -** Tutorial / Skill Development Activities (Hours are for Interaction between faculty and students)

| Course Code under 23ASA16 | Course Title |
|---|---|
| MASA116A | Sustainable Development Laws in India |
| MASA116B | Material Science |
| MASA116C | Indigenous Knowledge system |

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**Integrated Studio Course (ISC):** Refers to a Professional Studio Core Course Integrated with the theories/software relating to the studio. The theory part of the ISC shall be evaluated by CIE with regular assignment. The studio part shall be evaluated by both CIE & SEE (Viva-Voce with the external examiner).

**Professional Core Course (PCC):** Refers to a Course, which constitutes a major theory part of the particular specialization. **PSC:** Professional Supportive Course to the Specialisation.

**PEC:** Professional Elective Course: Elective courses will provide some of the most valuable and additional knowledge. The students will benefit from electives as they imply additional knowledge. Students may select courses from a large array of subjects that enhance their knowledge.

**1. Studio:**
  (i)  Students and studio coordinators to be involved individually or in groups to interact and enhance learning and application skills.
  (ii)  The students should be involved with Industry/ Professional Bodies/ Stakeholders in issue identification followed by research/ case studies/ testing that results in creative and innovative solutions to the identified problems.
  (iii)  Students will gain real-world experience by working with industry professionals
  (iv) Students must work on different software/s(tools) to simulate, analyze, and authenticate the output to interpret and conclude.
  (v)  Students must be involved in case studies and site visits/fieldwork.
  (vi) Students must familiarize themselves with codes of standards to narrow the gap between academia and the respective domain-oriented industry.

2. All activities should enhance student's abilities for employment and/or self-employment opportunities, management skills,  Statistical  analysis, fiscal expertise,etc.

3. **Skill Development Activities:** They may be in the form of periodic site visits ,guest lectures, and webinars, and seminars, need not be a fixed slot in timetables.

**Also the student Under Skill development activities** in a respective program, the students should
  1. Interact with industry (construction/consultancy/product oriented).
  2. Involve in research/testing/projects to understand their problems and help creative and innovative methods to solve the problem.
  3. Involve in case studies and field visits/ fieldwork.
  4. Accustom to the use of standards/codes/byelaws/zoning regulations etc., to narrow the gap between academia and industry.

All activities should enhance student's abilities to employment and/or self-employment opportunities, management skills, statistical analysis, fiscal expertise, etc. Students and the course faculty are to be involved either individually or in groups to interact together to enhance the learning and application skills of the study they have undertaken. The students with the help of the course teacher can take up relevant technical activities that enhance their skills. The prepared report shall be evaluated for CIE marks.

4. Viva-voce:
The viva -voce shall be conducted for a duration of 20 minutes (per student including if any group presentation) for the subjects listed under viva voce for all the semesters with one external examiner and one internal examiner.

**24RMI19-Research Methodology and IPR-** Non-Credit Mandatory Course (NCMC ) The student has to take this course at **http://online.vtu.ac.in** and qualifying in this course is compulsory before completion of the minimum duration of the program (Two years), however, this course will not be considered for **vertical progression.**

**Online Course:** These are the MOOC courses that the relevant stream's Board of Studies has recommended; you can access them at www.online.vtu.ac.in. To qualify for those courses, the students must complete 8-12 weeks duration courses. The courses chosen have not to be the same as that of the courses or subjects covered in the preceding semesters. Depending on the needs of the degree program, the BOS may recommend interdisciplinary courses. It is required to pass the course and qualify.

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**II Semester**

| SI No | Course | Course Code | Course Title | Teaching Hours/Week | | | Examinations | | | | | Total Marks | Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Lecture | Studio | Skill Development Activities | Duration hours | CIE Marks | SEE Marks | | | | |
| | | | | L | S | SDA | | | Theory | VivaVoce | | | |
| 1 | ISC/PCC | MASA201 | Integrated Sustainable Studio II | 2 | 8 | - | | 100 | - | 100 | | 200 | 10 |
| 2 | PCC | MASA202 | Resourse Conservation and Efficiency | 2 | - | 2 | 3 | 50 | 50 | - | | 100 | 3 |
| 3 | PSC | MASA203 | Green Building Technologies | 2 | - | 2 | 3 | 50 | 50 | - | | 100 | 3 |
| 4 | PCCL | MASA204 | Performance Evaluation of Buildings - II | 1 | 2 | 1 | - | 100 | - | - | | 100 | 3 |
| 5 | PEC - II | MASA215x | Professional Elective Course - II | 1 | 1 | - | - | 100 | - | - | | 100 | 2 |
| | | | **TOTAL** | 8 | 11 | 5 | 6 | 400 | 100 | 100 | | **600** | **21** |

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| Course Code under 23ASA25 | Course Title |
|---|---|
| MASA215A | Sustainable Interiors |
| MASA215B | System Thinking and Technology |
| MASA215C | Post Occupancy Evaluation of Buildings |

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## III Semester

| Sl No | Course | Course Code | Course Title | Teaching Hours/Week | | | Examinations | | | | | Total Marks | Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Lecture | Studio | Skill Development Activities | Duration hours | CIE Marks | SEE Marks | | | | |
| | | | | L | S | SDA | | | Theory | VivaVoce | | | |
| 1 | ISC/PCC | MASA301 | Building Performance and Analysis Studio | 2 | 8 | - | | 100 | - | 100 | 200 | 10 |
| 2 | PCC | MASA302 | People, Environment and Building | 2 | - | 2 | 3 | 50 | 50 | - | 100 | 3 |
| 3 | PSC | MASA303 | Professional Training / Internship | 03 months, Viva-Voce to be conducted | | | - | - | - | 100 | 100 | 3 |
| 4 | PSC | MASA304 | Research Methodology / Thesis Phase I | 2 | - | 2 | - | 50 | - | 50 | 100 | 3 |
| 5 | PEC - III | MASA315x | Professional Elective Course - III | 1 | 1 | - | - | 100 | - | - | 100 | 2 |
| | | | **TOTAL** | 7 | 9 | 4 | 3 | 300 | 50 | 250 | **600** | **21** |

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| Course Code under 23ASA35 | Course Title |
|---|---|
| MASA315A | Sustainable Landscape |
| MASA315B | Energy Auditing |
| MASA315C | Intelligent Buildings |

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## IV Semester

| SI No | Course | Course Code | Course Title | Teaching Hours/Week | | | Examinations | | | | | Total Marks | Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Lecture | Studio | Skill Development Activities | Duration hours | CIE Marks | SEE Marks | | | | |
| | | | | L | S | SDA | | | Theory | VivaVoce | | | |
| 1 | PCC | MASA481 | THESIS PROJECT | 2 | 12 | - | | 100 | - | 100 | 200 | 14 |
| | | | **TOTAL** | 2 | 12 | 0 | 0 | 100 | 0 | 100 | **200** | **14** |

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**CIE procedure for Project Work:**
The CIE marks shall be awarded by a committee/panel of guides consisting of the head of the concerned department, internal and external reviewer whoever takes review including mid-review on invitation by the department. The CIE marks awarded for the dissertation / project work shall be based on the evaluation of the dissertation work process / progress such as researchonanissue,title,literaturereview, dissertation structure, study methodology, issues and strategies, design program and intervention etc. evaluation also need to be based on the presentation skill, work during the periodic review. 25% weightage to be given to the strategies & solutions developed.

**SEE procedure for Project Work:**
The two examiners appointed by the University will conduct SEE for dissertation work with one internal examiner. The SEE marks awarded for the project work shall be based on the objectives and rubrics set and the final presentation/defending the viva voce / portfolio / dissertation report / Research Papers Published / documentation which showcases the outcome of a dissertation / project work. The weightage of the above may vary based on the specialization / topic of the dissertation / project work.

**TOTAL CREDITS: 24+21+21+14 = 80 (with 3 months vacation internship after 2nd semester)**