Kolhapur Institute of Technology's

COLLEGE OF ENGINEERING, KOLHAPUR (EMPOWERED AUTONOMOUS)

Gokul Shirgaon, Kolhapur

KOLHAPUR INSTITUTE OF TECHNOLOGY'S
COLLEGE OF ENGINEERING KOLHAPUR
(EMPOWERED AUTONOMOUS)

Curriculum Structure
For
M. Tech.
CIVIL AND STRUCTURAL ENGINEERING

Academic Year 2025-2026

Post Graduate Programme

Approved in BoS on 15.03.2025
Approved in Academic Council on 24.05.2025

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S. Y. M. Tech
Semester - III

Academic Year 2025-2026

Title of the Course:	**INTERNSHIP**	**L**	**T**	**P**	**Credit**
Course Code:	**MCVIL0341**	**-**	**-**	**20**	**10**

Course Pre-Requisite:

Students should have completed core courses in Civil / Structural Engineering Program, Proficiency in design software (e.g., AutoCAD, STAAD Pro) and engineering mathematics is essential.

Course Description:

Internship course has been included in the curriculum to provide the candidates the exposure to professional practices followed in the field of Civil Engineering. Internship provides an opportunity to the students to learn the various aspects of Civil Engineering in Industries and other organizations.

Course Learning Objectives:

1. To provide an opportunity for student to work in collaborative and multidisciplinary environment.
2. To expose the students to real life Civil/Structural engineering problems encountered in industry/society.

Course Outcomes:

CO	After the completion of the course the student should be able to	**Bloom's Cognitive Descriptor**
CO1	Build the knowledge base with reference to practices and measures followed in the field with reference to Civil Engineering Domains.	Apply
CO2	Determine the solutions to the field problems by using different approaches, tools and techniques.	Evaluate

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6
CO1		2			2	
CO2		3	2	2		2

Assessments:

Teacher Assessment:

Assessment	**Marks**
ISE	100

ISE: Assessment is based on Presentation and Report related to Internship.

Course Contents
• This internship course is designed to provide M.Tech Civil & Structural Engineering students with hands-on, practical experience in a professional setting in terms of working as an intern in organisations. Students will apply theoretical knowledge gained during their coursework to real-world Civil Engineering projects, enhancing their technical skills, professional development, and industry readiness.

Title of the Course:	**DISSERTATION PHASE I**	**L**	**T**	**P**	**Credit**
Course Code:	**MCVIL0351**	**-**	**-**	**20**	**10**

Course Pre-Requisite:

Students shall have the knowledge of:

- Core Courses of Civil Engineering
- Research Methodology Course
- Mini Project Course

Course Description:

In this initial phase, students identify a research problem, conduct a comprehensive literature review, and formulate a research proposal. Emphasis is placed on developing a clear research plan, including objectives, methodology, and expected outcomes. Students begin preliminary data collection and analysis, laying the groundwork for their final dissertation.

Course Learning Objectives:

1. To enable students to identify a significant Civil engineering research problem, conduct a thorough literature review, and develop a well-structured research proposal with clear objectives and methodology.
2. To equip students with the skills to design a comprehensive research plan, including selecting appropriate research methods, tools, and techniques for preliminary data collection and analysis.
3. To develop students' abilities to document their research progress effectively and present their initial findings and research plan to a faculty committee for constructive feedback and guidance.

Course Outcomes:

CO	After the completion of the course the student should be able to	**Bloom's Cognitive Descriptor**
CO1	Develop and submit a detailed research proposal that identifies a significant Civil engineering problem, includes a thorough literature review, and outlines clear research objectives and methodology.	Apply
CO2	Design a robust research plan, selecting appropriate methods and tools for preliminary data collection and analysis, thereby laying a strong foundation for their research.	Create

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	2	1	2		1	1
CO2	2	1	2	2		1

Assessments:

Teacher Assessment:

Assessment	Marks
ISE -I	25
ISE -II	25
ESE (OE)	100

- **ISE 1 & 2:** For dissertation phase I, these ISEs should be based on the efforts by the student for synopsis preparation. It shall be evaluated using the parameters extent of literature review, scope defined, objectives, and fundamental concepts, quality of presentation, and interaction during presentation, effort/work done, quality of report and interaction with guide.
- **ESE:** Shall be conducted at the end of semester by a duly constituted examination panel composed of Chairman, internal examiner (guide) and external examiner.

Course Contents

- The third semester is completely devoted to dissertation work which is defined based on the interest of the students to specialize in a particular area. Students are expected to carry out independent research work based on the chosen topic. In this semester it is expected that the student has carried out substantial research work including exhaustive literature survey, formulation of the research problem, development/fabrication of experimental set-up (if any/required) and testing, and analysis of initial results thus obtained.

Title of the Course:	**DISSERTATION PHASE II**	**L**	**T**	**P**	**Credit**
Course Code:	**MCVIL0451**	**-**	**-**	**40**	**20**

Course Pre-Requisite:

Students shall have the knowledge of:

- Core Courses of Civil Engineering
- Research Methodology Course
- Mini Project Course
- Dissertation Phase I

Course Description:

Building on the groundwork completed in Dissertation Phase 1, students complete their data collection and conduct in-depth analysis. This phase focuses on interpreting results, drawing conclusions, and making recommendations based on the research findings. Students are required to compile their work into a detailed dissertation, demonstrating their ability to conduct significant, independent research. The phase culminates in a final defense, where students present and defend their research before a expert evaluators panel.

Course Learning Objectives:

1. To enable students to perform comprehensive data analysis, interpret the results accurately, and draw meaningful conclusions related to their research problem in environmental engineering.
2. To equip students with the skills to compile their research findings, methodology, and analysis into a well-organized, detailed dissertation that adheres to academic standards and effectively communicates their research.
3. To prepare students to confidently present and defend their research findings before a faculty panel, demonstrating a thorough understanding of their work and its implications in the field of environmental engineering.

Course Outcomes:

CO	After the completion of the course the student should be able to	**Bloom's Cognitive Descriptor**
CO1	Interpret complex data, its significance, and determine insightful conclusions relevant to their research topic	Evaluate
CO2	Create a detailed and well-structured dissertation, effectively documenting their research methodology, analysis, and results in accordance with academic standards.	Create

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	3	3	3	1	3
CO2	1		1	2	1	3

Assessments:

Teacher Assessment:

Assessment	Marks
ISE -I	50
ISE -II	50
ESE (OE)	150

- **ISE 1 & 2:** Evaluation is based on the work done during the semester four and the reports submitted by the students. It shall be evaluated through progress seminars at mid and then at the end of the semester. The parameters for evaluation include extent of work done, results and discussion, encouraging them for publication and conference presentations, quality of presentation, quality of report, interaction during presentation and interaction with guide.
- **ESE:** Shall be conducted at the end of semester by a duly constituted examination panel composed of Chairman, internal examiner (guide) and external examiner.

Course Contents

- In fourth semester, the students continue their dissertation work. It is expected that the student has completed most of the experimental/computation works and analyzed the results so obtained as proposed in the synopsis. The work should be completed in all respects in this semester. The students are required to submit the dissertation work in the form of report as per the institute rules and regulations.