

Pimpri Chinchwad Education Trust's
PIMPRI CHINCHWAD COLLEGE OF ENGINEERING

SECTOR NO. 26, PRADHIKARAN, NIGDI, PUNE 411044

(An Autonomous Institute Approved by AICTE and affiliated to SPPU, Pune)



DEPARTMENT OF CIVIL ENGINEERING

Curriculum Structure and Syllabus
of
Second Year M. Tech. Construction Management
(Regulation 2026)



Effective from Academic Year 2027-28

Institute Vision

To be one of the top 100 Engineering Institutes of India in coming five years by offering exemplarily Ethical, Sustainable and Value Added Quality Education through a matching ecosystem for building successful careers.

Institute Mission

1. Serving the needs of the society at large through establishment of a state-of-artEngineering institute
2. Imparting right Attitude, Skills, Knowledge for self-sustenance through QualityEducation
3. Creating globally competent and Sensible engineers, researchers and entrepreneurswith an ability to think and act independently in demanding situations.

EOMS Policy

“We at PCCOE are committed to offer exemplarily Ethical, Sustainable and Value Added Quality Education to satisfy the applicable requirements, needs and expectations of the Students and Stakeholders.

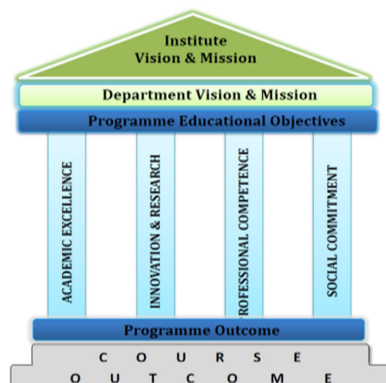
We shall strive for technical development of students by creating globally competent and sensible engineers, researchers and entrepreneurs through Quality Education.

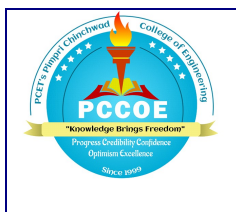
We are committed for Institutes’ social responsibilities and managing Intellectual property.

We shall achieve this by establishing and strengthening state-of-the-art Engineering Institute through continual improvement in effective implementation of Educational Organizations Management Systems (EOMS).”

Quality Objectives

- To Improve Academic Performance Index.
- To Improve Research and Innovation Index.
- To Improve Professional Competency of the Students and ensure social contribution.
- To enhance student’s placements, training.





Pimpri Chinchwad Education Trust's
Pimpri Chinchwad College of Engineering
Department of Civil Engineering

Course Approval Summary M. Tech. Civil- Construction Management

A) Board of study- Department of Civil Engineering (PG)

Sr. No.	Course Name	Code	Page Number	Signature and stamp of BoS Chairman
1	Dissertation Phase - I[Company/ In-house project]	MCI33EL04	7	
2	MOOC's	MCI33EL05	9	
3	Internship I [Company / Inhouse project]	MCI33EL06	9	
4	Research Review Paper Writing	MCI33EL07	10	
5	Dissertation Phase – II [Company/ In-house project]	MCI34EL08	12	
6	Internship II [Company / Inhouse project]	MCI34EL09	13	

Approved by Academic Council:

Chairman, Academic Council

Pimpri Chinchwad College of Engineering

Approved by Board of Governors:

Chairman, Board Governors

Pimpri Chinchwad College of Engineering

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CURRICULUM STRUCTURE

STRUCTURE FOR SECOND YEAR M. TECH (CIVIL- CONSTRUCTION MANAGEMENT) SEMESTER-III

M Tech. C.M.		Sem – III	TEACHING SCHEME					EXAMINATION SCHEME				
Course Code	Course Type	Courses	L	P	H	CR	FA1	FA2	SA	TW	OR	Total
MCI33EL04	ELC	Dissertation Phase –I [Company/ In- house project]	-	20	20	10	-	-	-	100	150	250
MCI33EL05	ELC	MOOCs	-	04	04	02	-	-	-	100	-	100
MCI33EL06	ELC	Internship I	-	12	12	06	-	-	-	50	50	100
MCI33EL07	ELC	Research / Review Paper Writing	-	04	04	02	-	-	-	50	-	50
		Total	-	40	40	20	-	-	-	300	200	500

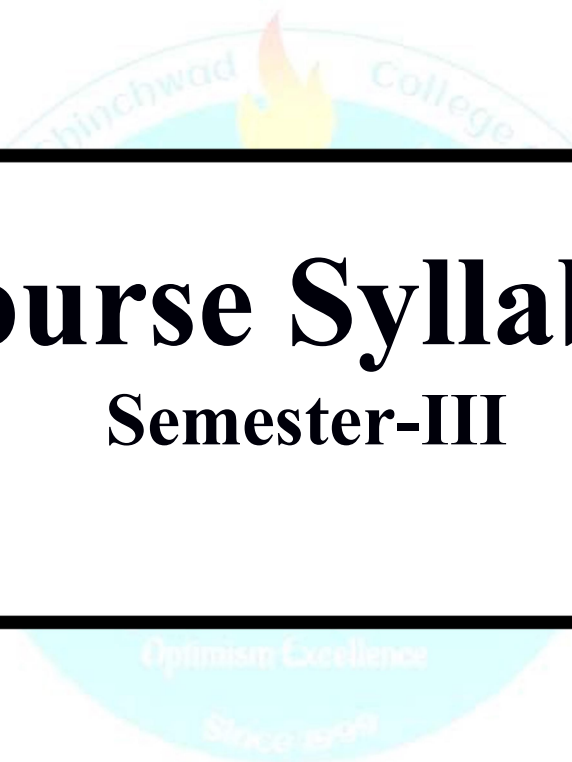
*Internship I: -It may be in summer/winter vacation or within semester at least for a span of three months (12 weeks),evaluation after end of semester.

SEMESTER-IV

M. Tech. C.M.		Sem – IV	TEACHING SCHEME				EXAMINATION SCHEME					
Course Code	Course Type	Courses	L	P	H	CR	FA1	FA2	SA	TW	OR	Total
MCI34EL08	ELC	Dissertation Phase – II [Company/ In-house project]	-	28	28	14	-	-	-	250	150	400
MCI34EL09	ELC	Internship II	-	12	12	06	-	--	-	50	50	100
		Total	-	40	40	20	-	--	-	300	200	500

***Internship II:** -It should be in continuation with Internship I, for the same site at least for a span of three months (12 weeks),evaluation after end of semester.

Abbr: Course Abbreviation; **L-** Lecture; **P-** Practical; **H-** Hours; **CR-** Credits; **FA1** – Formative Assessment-1; **FA2** – Formative Assessment -2; **SA** – Summative Assessment; **TW** – Term Work; **OR** – Oral Exam.



Course Syllabus

Semester-III

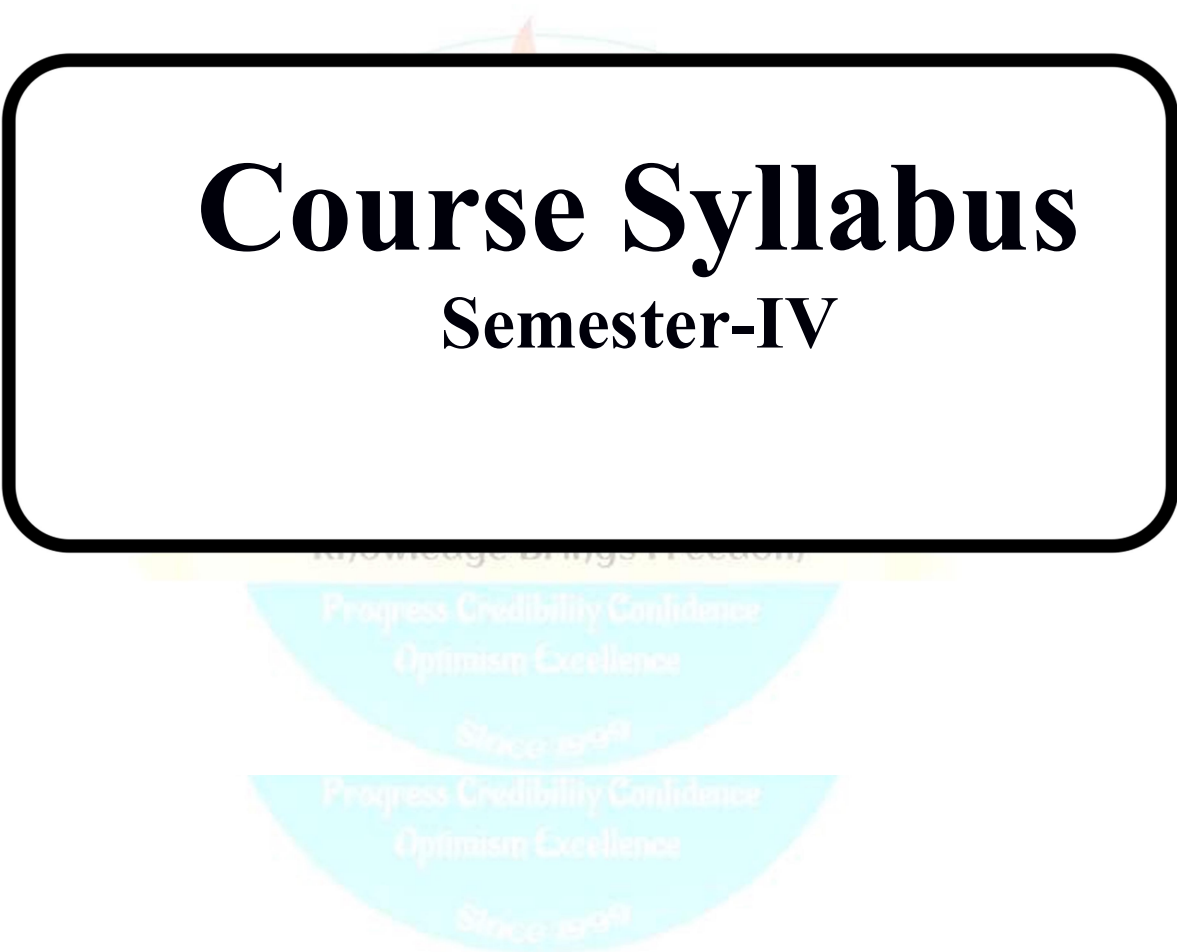
Program: M. Tech (Civil) Construction Management			Semester : III			
Course : Dissertation Phase – I [Company/ In-house project]			Code :MCI33EL04			
Teaching Scheme			Evaluation Scheme			
Practical	Hours	Credit	FA	TW	OR	Total
20	20	10	-	100	150	250
Pre Requisite: 1. The knowledge acquired by the students through seminar and project at bachelor engineering program. 2. The knowledge asquired by the student from all theory courses and laboratory work done in Sem I and Sem II in first year M.Tech.						
Objectives: 1. To develop innovative and research oriented applied work which contribute to the needs ofthe society. 2. To provide an opportunity of planning, designing and developing complete system or subsystem in the area of construction management and technology, where the students like to acquire specialized skills. 3. To inculcate research culture in students for their technical growth.						
Outcomes: After learning the course the students should be able to: 1. Identify and define a problem statement. 2. Critically evaluate literature in chosen area of research and define (establish) scope of work. 3. Develop research methodology. 4. Carryout theoretical study and / or experimental work to demonstrate technical competency. 5. Prepare technical report for research article / copy right / IPR. 6. Develop solution for the benefit of society and environment.						
Guidelines : 1. Individual student should carry out project work/ dissertation work under the supervision of allocated guide in the concerned Department. 2. Sponsored Project or Project Internship is acceptable considering postgraduate scope. A candidate may however, in certain cases, be permitted to work on the project in an Industrial/Research Organization, on the recommendation of Head of the Department, with the approval of the Head of the Institution. In such cases, the project work shall be jointly supervised by a supervisor of the Department and an Engineer / Scientist from the organization and the student shall be instructed to meet the supervisor periodically and to attend the review committee meetings for evaluating the progress. 3. Students have to select a topic for the dissertation, based on his/her interest and available facilities at the commencement of dissertation work. 4. Dissertation work may cover analytical formulation, experimentation or survey based project or combination of these and can also undertake an interdisciplinary type project. 5. Student should present the Synopsis Submission Presentation with literature survey report to justify the research gap, innovativeness, applicability, relevance and significance of the work. 6. Student should undertake project work after approval of synopsis. 7. Students are required to search, collect and review sufficient research articles published in chosen area of research from peer reviewed journals.						

8. Students should complete the dissertation phase-I work that will consist of problem statement, literature review: project overview, scheme of implementation (Mathematical Model/block diagram/PERT chart, etc.) and layout & design of setup if any. 9. Student should submit a dissertation phase-I report on the research work carried out by him/her as a compliance of term work associated with course. 10. Dissertation phase-I presentation and oral will be based on preliminary results from his/her work during the semester with report. 11. It is expected to submit the project and plagiarism report within 30 days from the last day of end of semester in which dissertation work is done. 12. For non-satisfactory performance, student will be given grace period of 2 weeks. After 2 weeks student will be again evaluated with grade penalty. 13. Minimum 02 presentations should be delivered by the student during semester. 14. Paper publication is expected as research outcome of dissertation phase-I (Conference or reputed journal) and 40% of planned project work should be completed for submission of Dissertation Phase-I. 15. Total 120 hours are expected to be spent by students to satisfy all project requirements and implementations.		
Detailed Syllabus:		
Dissertation Phase – I [Company/ In-house project]		
Sr. No.	Activity	
1.	Week 1, 2 & 3: Guide allotment, applying for sponsorship and project internship, finalization of topic, Planning of work and required tools. Review 1 for Title finalization.	
2.	Week 4 & 5: Literature collection, Specification and Methodology Finalization, Review 2 for Literature Analysis and specification.	
3.	Week 6, 7 & 8: Detail literature review, planning of the necessary tools/resources for implementation and/or related software,	
4.	Week 9 & 10: Finalization of scheme of implementation (Mathematical Model/block diagram/chart, etc.) and layout & Design of experimental setup if any. Survey, data Collection planning. Review 3 to understand the progress of the work.	
5.	Week 11 & 12: Project Report writing / copyright.	

Program: M. Tech (Civil) Construction Management			Semester: III			
Course: MOOCs			Code: MCI33EL05			
Teaching Scheme			Evaluation Scheme			
Practical	Hours	Credit	FA	TW	OR	Total
4	4	2	--	100	--	100
Guidelines : 1. Individual student need to register for MOOC course of their interest or entrepreneurship related trainings. 2. Weekly assignment needs to be regularly completed as per requirement of course, which will be considered for internal assessment of course. 3. The certification of course or training is mandatory. 4. Oral and presentation of course/ training will be taken at the end of semester by internal / external examiner. 5. Total Duration: 24 Contact Hours and additional 24 Hours should be spend by students on completion of related activities and requirements.						

Program: M. Tech (Civil) Construction Management			Semester: III			
Course: Internship I [Company / In-house]			Code: MCI33EL06			
Teaching Scheme			Evaluation Scheme			
Practical	Hours	Credit	FA	TW	OR	Total
12	12	6	--	50	50	100
Guidelines: 1. Individual student should attempt for internship with help of PCCOE T&P cell / T&P departmental coordinator in the Construction Management domain under the guidance of internship coordinator. 2. The presentation is expected from the students based on their internship work. 3. Internship report should be submitted as a compliance of term work associated with subject. 4. Total Duration: 24 Contact Hours and additional 24 Hours should be spend by students on completion of related activities and requirements.						
Detailed Syllabus:						
Internship/ In-house / Entrepreneurship activity						
Sr. No.	Activity					Duration (H)
1.	Week 1, 2 and 3: Guide allotment, Application of internships, finalization of topic, Planning of the work. Review-1 conduction					6
2.	Week 4 & 5: Internship/ Mini-project/ Entrepreneurship activity implementation as per requirements					4
3.	Week 6 to 8: Review-2 of Activities					6
4.	Week 9 & 10: Interaction of Guides with Industry, Presentation					4
5.	Week 11 & 12: Internship Report writing, Final Review conduction.					4
	Total					24

Program: M. Tech (Civil) Construction Management			Semester: III			
Course:		Research / Review Paper Writing			Code: MCI33EL07	
Teaching Scheme			Evaluation Scheme			
Practical	Hours	Credit	FA	TW	SA	Total
4	4	2	--	50	--	50
Pre-requisite: Basics of Technical writing is essential						
Course Objectives: This course will enable students						
1. To provide an opportunity to the students to carry out research review of specific topic						
2. To familiarize students with publication support tools						
Course Outcomes: After learning the course, the students will be able to:						
1. Develop an ability to learn the concept of Literature Review, Technical Reading, Critical Evaluation, Attributions and Citations.						
2. Use publications tools such as writing tools, plagiarism tools and AI writing tools.						
3. Understand Publication Ethics and their impact in research.						
4. Prepare a technical review paper with appropriate statistics and conclusions.						
Guidelines:						
1. Individual student need to find the specific area of research under the guidance of allocated supervisor.						
2. Student need to collect at least 25 papers in specified area.						
3. They have to prepare Literature review on the basis of papers collected.						
4. Student is supposed to appropriate writing tools such as Latex for preparation of material.						
5. Student need to learn tools for good English writing such as Grammarly.						
6. Students need to use plagiarism and AI writing checking tools for their document.						
7. Three reviews will be scheduled to assess progress of the research work.						
8. Student must publish the good review paper in conference/ journal.						
One MOOCs course related to Research Review Writing is advisable.						
Detailed Syllabus:						
	Description					
1	Guide allotment and selection of research area					
2	Finalize research review topic and scope of research					
3	Conducting critical literature review: Selection of appropriate research papers, Critical reading and thinking, Comparative analysis of the papers, Finding a research Gap					
4	Review-1 (Will be conducted in Week 5-6): Expectation: Discussion on the Area of research selected for review					
5	Review-2 (Will be conducted in Week 11): Expectations: Discussion on paper downloaded, their findings , tools used till now					
6	Write a research review paper. Software for paper formatting like LaTeX/MS Office etc can be used Citing styles and tools such as Google scholar, Mendley etc Reference Management Software like Zotero/Mendeley etc. MOOC on Research Paper Writing and Certificate for same will be given more weightage.					



Course Syllabus

Semester-IV

Program: M. Tech. (Civil) Construction Management			Semester : IV			
Course: Dissertation Phase – II [Company/ In-house project]			Code : MCI34EL08			
Teaching Scheme			Evaluation Scheme			
Practical	Hours	Credit	TW	PR	OR	Total
28	28	14	250	--	150	400
Essentials: 1. The knowledge acquired by the students through seminar and project at bachelor engineering program. 2. The knowledge acquired by the student from all theory courses and laboratory work done in Sem I and Sem II in first year M. Tech.						
Objectives: 1. To develop innovative and research oriented applied work which contribute to the needs of the society. 2. To provide an opportunity of planning, designing and developing complete system or subsystem in the area of construction management and technology, where the students like to acquire specialized skills. 3. To inculcate research culture in students for their technical growth.						
Outcomes: After learning the course the students should be able to: 1. Identify and define a problem statement. 2. Evaluate literature in chosen area of research and define (establish) scope of work. 3. Develop research methodology. 4. Carryout theoretical study and / or experimental work to demonstrate technical concepts. 5. Prepare technical report for copy right, IPR and research article. 6. Develop solution for the benefit of society and environment.						
Guidelines : 1. The student should complete the remaining major part of the project in this semester IV, which will consist of the experimental set up and analysis required for the project or software based analysis, validation of results and conclusions. 2. The student should prepare the duly certified final report of the project work in standard format within 30 days after end of the last day of semester IV. 3. Final Project Report should be submitted as a compliance of term work associated with course. 4. For non-satisfactory performance, student will be given grace period of 4 weeks. After 4 weeks student will be again evaluated with grade penalty. 5. If a candidate fails to submit the dissertation on or before the specified deadline, he / she is deemed to have incomplete dissertation and should re-register for the same in subsequent semester. 6. Student should present / publish minimum 1 research paper in peer reviewed conference/research journals as research outcome of Dissertation Phase – II (Conference or reputed journal) and 100% of planned project work should be completed for submission of Dissertation Phase-II 7. Total Duration: 144 hours are contact hours with guides and for reviews , 144 hours are expected to be spend by students to satisfy all project requirements and implementations.						
Detailed Syllabus:						
Dissertation Phase – II						
Sr. No.	Activity					
1.	Week 1 & 2: Experimental set up required for the project, Experimental or software analysis etc. completed					
2.	Week 3 & 4: 60 % Work should be completed. Progress Review 1 conduction.					
3.	Week 5 & 6: 80% work should be completed. Taking results, analysis and validation of results.					
4.	Week 7 & 8: Compliance of 100 % work. Progress Review -2 will be conducted to check the quality of project and requirements fulfillment to permit project submission.					

5.	Week 9 & 10: Paper writing and report writing should be in process
6.	Week 11 & 12: Project Report writing, patent and copyright planning and execution. Demonstration of Project work and Final Research Review Committee (RRC) reviews will be conducted for submission and term work compliances.

Program: M. Tech (Civil) Construction Management			Semester: IV			
Course: Internship II [Company / In-house]			Code: MCI34EL09			
Teaching Scheme			Evaluation Scheme			
Practical	Hours	Credit	FA	TW	OR	Total
12	12	6	--	50	50	100
Guidelines: 1. This Internship should be in extension of Internship I, for the same site preferably with same Builder / Contractor. 2. The presentation is expected from the students based on their internship work. 3. Internship report should be submitted as a compliance of term work associated with subject. 4. Total Duration: 24 Contact Hours and additional 24 Hours should be spend by students on completion of related activities and requirements.						
Detailed Syllabus:						
Internship/ In-house / Entrepreneurship activity						
Sr. No.	Activity					Duration (H)
1.	Week 1, 2 and 3: Guide allotment, Application of internships, finalization of topic, Planning of the work. Review-1 conduction					6
2.	Week 4 & 5: Internship/ Mini-project/ Entrepreneurship activity implementation as per requirements					6
3.	Week 6 to 8: Review-2 of Activities					6
4.	Week 9 & 10: Interaction of Guides with Industry, Presentation					6
5.	Week 11 & 12: Internship Report writing, Final Review conduction.					6
	Total					30

VISION AND MISSION and POs OF CIVIL ENGINEERING DEPARTMENT

Vision

To establish as a premier civil engineering department in Maharashtra in the coming five years by providing quality education, fostering innovation with ethical values to serve the society.

Mission

1. Fostering value-based education to achieve academic excellence with the right attitude and professional ethics.
2. Inculcating a culture of research and innovation, with an aim of serving society in a sustainable manner.
3. Developing skilled civil engineers with an ability to provide solutions to meet national and global challenges in accordance with the needs of the society.

Program Outcomes

PO1: Able to undertake research /investigation and development work independently for solving problems.

PO2: Capable to write and present ethically a meaningful technical report.

PO3: Able to demonstrate a degree of mastery over the construction management area. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

PO4: Able to use modern-day engineering tools to evaluate social, economic, legal, health, and cultural issues that are pertinent to construction engineering practice.

PO5: Able to apply construction management principles independently or as a team, embracing lifelong learning in the ever changing technological advancements.

Higher Study Scope: PhD. Research Centre at PCCOE.

Computer
Engineering

E&TC
Engineering

Mechanical
Engineering

Civil
Engineering

Features of PhD Research Centers

- Experienced Research Guides
- Separate Research Laboratories, Library, licensed software, recent hardware and other Facilities
- Good support for Publications.
- Justified and clear evaluation systems
- Defined rules and regulations for evaluation and submission.
- Effective Course work conductions

