

**Kolhapur Institute of Technology's College of
Engineering Kolhapur (Empowered Autonomous)**



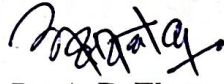
Department of Civil and Environmental Engineering

Curriculum and syllabus for

**B.Tech (Hons.) Civil and Environmental Engineering with Specialization in
Green Technology and Sustainability Engineering**


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Kolhapur Institute of Technology's
College of Engineering Kolhapur (Empowered Autonomous)
DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

VISION AND MISSION OF INSTITUTE

VISION:

- To be the Centre of Excellence in technical education and preferred choice of Faculty, Students, Industry and Society.

MISSION:

- To empower the faculty, staff and aspiring Engineers with essential technical knowledge and skills.
- To develop competence towards serving the ever changing needs of industry and society.
- To inculcate social and ethical values amongst the Students and Employees.
- To strengthen collaborative Research and Consulting Environment with industry and other institutions.

VISION AND MISSION OF DEPARTMENT

VISION

- To develop as a center of excellence in Civil and Environmental Engineering Education.

MISSION

- To impart essential technical knowledge, skills and Environmental ethics.
- To develop professional capabilities to meet changing societal and industrial needs.
- To build up base for Research and Consultancy activities.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO)	
PEO1:	Solve Civil and Environmental Engineering problems and pursue higher studies using solid foundation in mathematics, science and technology.
PEO2:	Design, execute and operate various Civil and Environmental systems in related fields through participative education.
PEO3:	Develop skills to communicate effectively and work in a team in multidisciplinary areas.
PEO4:	Respond to the challenges of issues of Civil and Environmental Engineering through research and development.

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PROGRAMME OUTCOMES (PO)	
PO1:	Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and engineering specialization for solution of complex problems of Civil and Environmental Engineering.
PO2:	Problem Analysis: Identify, formulate, review research literature and analyze complex Civil and Environmental Engineering problems reaching substantiated conclusions with consideration for sustainable development.
PO3:	Design/Development of Solutions: Design creative solutions for complex Civil and Environmental Engineering problems and develop system components to meet identified needs with consideration for public health and safety, whole-life cost, net zero carbon, culture, society and environment as required.
PO4:	Conduct Investigations of Complex Problems: Conduct investigations of complex Civil and Environmental Engineering problems using research-based knowledge including design of experiments, modeling, analysis and interpretation of data to provide valid conclusions.
PO5:	Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modeling recognizing their limitations to solve complex Civil and Environmental Engineering problems.
PO6:	The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex Civil and Environmental Engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment.
PO7:	Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national and international laws.
PO8:	Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in multi-disciplinary teams.
PO9:	Communication: Communicate effectively and inclusively within the engineering community and society at large, through oral presentations and written reports and design documentation, considering cultural, language, and learning differences
PO10:	Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage Civil and Environmental Engineering projects in multidisciplinary environments.
PO11:	Life-Long Learning: Recognize the need for and have the preparation and ability for (i) independent and life-long learning (ii) adaptability to new and emerging technologies and (iii) critical thinking in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSO)	
PSO1:	Identify and analyze the pollution related problems generated due to urbanization and industrialization.
PSO2:	Interpret the data using various tools and techniques to provide effective and applicable solutions.



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Kolhapur Institute of Technology's
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Teaching and Evaluation Scheme for

**B. Tech. (Hons.) in Civil and Environmental Engineering with Specialization in
Green Technology and Sustainability Engineering**

Course Code	Course Name	Semester	Hours/Week				Evaluation Scheme		
			L	T	P	Credits	Component	Marks	
								Max	Min for passing
UCEHN0351	Environmentally Sustainable Materials	III	3	1	-	4	ESE	100	40
UCEHN0451	Energy Technologies and Management	IV	3	1	-	4	ESE	100	40
UCEHN0551	Faecal Sludge and Septage Management	V	3	1	-	4	ESE	100	40
UCEHN0651	Environmental Economics	VI	3	1	-	4	ESE	100	40
UCEHN0751	Mini Project	VII	-	-	4	2	ESE (OE)	100	40
			12	4	4	18	500		

Total Credits - 18, Total Contact hours – 20