

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



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



Department of Civil and Environmental Engineering
Curriculum and Syllabus for
Second Year B. Tech. Civil and Environmental Engineering
(As Per NEP, 2020)


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DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

ABOUT THE DEPARTMENT

Kolhapur Institute of Technology's College of Engineering (Autonomous), Kolhapur is the only Institute in Maharashtra offering B. Tech in Civil and Environmental Engineering (04 Years Duration). Department offers M. Tech Program in Environmental Engineering (02 Years Duration) and it also has Ph.D. Research Centre in Environmental Engineering approved by Shivaji University, Kolhapur. Department is Accredited by National Board of Accreditation (NBA), New Delhi. Department of Civil and Environmental Engineering of KIT CoE, Kolhapur has been imparting education and training in all aspects of sustainable environment. The students undergo an academic program based on necessary fundamental concepts and major thrust areas of Civil Engineering and emphasizing on domains of Environmental Engineering such as, Water and Wastewater Engineering, Air and Noise Pollution Control, Solid and Hazardous Waste Management, Hydraulics, Environmental Management System, Environmental Impact Assessment and Legislation, Environment Health and Safety, Environmental Sanitation, Geospatial Technology, Renewable Energy Resources, Environmental Sustainability etc. Department has PAN India Consultancy. Faculties and students are actively involved in several projects funded by various funding agencies and industries. The department has very good infrastructure equipped with necessary facilities and laboratories. Teaching learning process is effective by use of MOODLE and ICT based education. Student progress is monitored by effective mentoring and feedback system. Department offers B. Tech (Hons.) Civil and Environmental Engineering with Specialization in Green Technology and Sustainability Engineering, Project Based Learning, Business Club Activity, Soft Skill Development Programs, Student – Alumni Dialogues Initiatives as well as Value Added Programs. Department has a very strong alumni base spread all over the world as well as very good industry-institute connect through which training, internship and placement opportunities are provided to the students. The department has very strong student-support system.

DEPARTMENT VISION

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

DEPARTMENT MISSION

- | | |
|------------|--|
| M1: | To impart essential technical knowledge, skills and Environmental ethics. |
| M2: | To develop professional capabilities to meet changing societal and industrial needs. |
| M3: | 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. |

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

PROGRAMME OUTCOMES (PO)	
PO1:	Apply knowledge of mathematics, natural science, computing, engineering fundamentals and engineering specialization for solution of complex problems of Civil and Environmental Engineering.
PO2:	Identify, formulate, review research literature and analyze complex Civil and Environmental Engineering problems reaching substantiated conclusions with consideration for sustainable development.
PO3:	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 Civil and Environmental Engineering problems using research-based knowledge including design of experiments, modeling, analysis and interpretation of data to provide valid conclusions.
PO5:	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:	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:	Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national and international laws.
PO8:	Function effectively as an individual, and as a member or leader in multi-disciplinary teams.
PO9:	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:	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:	Recognize the need for and have the preparation and ability for independent and life-long learning to engage in contemporary and emerging technologies and 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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As per NEP Guidelines											
Proposed Scheme of Credit Distribution											
	Year	FY		SY		TY		B. Tech.			
Sr. No.	Curriculum Components	I	II	III	IV	V	VI	VII	VIII	Actual	NEP Guidelines
1	Basic Science Courses (BSC)	8	8							16	14-18
2	Engineering Science courses (ESC)	10	3							13	12-16
3	Programme Core Courses (PC)		3	16	15	10	11	11		66	44-56
4	Programme Elective courses (PEC)					3	3	3	6	15	20
5	Multi Minor (MM)			2	3	3	3	3		14	14
6	Open elective (OE)					3	3	2		8	8
7	Vocational and Skill Enhancement course (VSEC)	1	3		1	1				6	8
8	Ability Enhancement Course (AEC)		3				1			4	4
9	Entrepreneurship /Economics/ Management courses (Mgt/Economics/Mkt/Finance) (HSSM)			2		2				4	4
10	Indian knowledge system (IKS)	2								2	2
11	Value Education course (VEC)			2	2					4	4
12	Research Methodology (Project) (RM)							4		4	4
13	Comm. Engg Project/Field Project (PBL/Seminar/Mini Project) (CEP)					1	1			2	2
14	Project (PP)								4	4	4
15	Internship/OJT (PBL/Seminar/Mini Project/Virtual Internship/Physical) (OJT)			1	1				6	8	12
16	Co-curricular Courses (CC)		1		1		1		1	4	4
		20-22	20-22	20-22	20-22	20-22	20-22	20-22	20-22	174	
		21	21	23	23	23	23	23	17	174	

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B. Tech. Civil and Environmental Engineering Regulation 2024-25

SEMESTER-I

SEMESTER-I												
Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component			
1.	BSC	UHSBS0101	Engineering Mathematics-I	3	1	-	4	4	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
2.	BSC	UHSBS0108	General Physics and Optics	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
3.	ESC	UHSES0109	Engineering Mechanics	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
4.	ESC	UHSES0110	Basic Mechanical Engineering	2	-	-	2	2	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
5.	ESC	UHSES0111	Introduction to Python Programming	2	-	-	2	2	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
6.	BSC	UHSBS0128	General Physics and Optics Lab	-	-	2	2	1	ISE	50	20	
7.	ESC	UHSES0129	Engineering Mechanics Lab	-	-	2	2	1	ISE	50	20	
8.	ESC	UHSES0130	Basic Mechanical Engineering Lab	-	-	2	2	1	ISE	50	20	
9.	ESC	UHSES0131	Introduction to Python programming Lab	-	-	2	2	1	ISE	50	20	
10.	VSEC	UHSVS0132	Workshop Practice Lab	-	-	2	2	1	ISE	50	20	
11.	IKS	UHSIK0136	Ecology, Energy & Environment	2	-	-	2	2	ISE	100	40	
Total:							26	21	Total Marks: 800 Total Credit: 21			

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SEMESTER-II													
Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme				
									Component				
1.	BSC	UHSBS0201	Engineering Mathematics-II	3	1	-	4	4	ISE1	10		40	
									MSE	30			
									ISE2	10			
									ESE	50	20		
2.	BSC	UHSBS0212	Applied Chemistry	3	-	-	3	3	ISE1	10		40	
									MSE	30			
									ISE2	10			
									ESE	50	20		
3.	AEC	UHSAE0203	Communication Skills	2	-	-	2	2	ISE1	10		40	
									MSE	30			
									ISE2	10			
									ESE	50	20		
4.	ESC	UHSES0213	Basic Civil Engineering	2	-	-	2	2	ISE1	10		40	
									MSE	30			
									ISE2	10			
									ESE	50	20		
5.	PC	UHSPC0214	Fundamentals of Electrical Engineering	2	-	-	2	2	ISE1	10		40	
									MSE	30			
									ISE2	10			
									ESE	50	20		
6.	BSC	UHSBS0233	Applied Chemistry Lab	-	-	2	2	1	ISE	50	20		
7.	AEC	UHSAE0222	Communication Skills Lab	-	-	2	2	1	ISE	50	20		
8.	ESC	UHSES0234	Basic Civil Engineering Lab	-	-	2	2	1	ISE	50	20		
9.	PC	UHSPC0235	Fundamentals of Electrical Engineering Lab	-	-	2	2	1	ISE	50	20		
10.	VSEC	UHSVS0238	Computer Aided Engineering Drawing	-	-	2	2	3	ISE1	25		40	
									ISE2	25			
									ESE (POE)	50	20		
11.	CC	UHSCC0239	Co-Curricular Course	1	-	-	-	1	ISE	100	40		
Total:							24	21	Total Marks: 800 Total Credit: 21				

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SEMESTER-III

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component			
1.	PC	UCEPC0301	Computational Methods and Numerical Analysis	3	1	-	4	4	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
2.	PC	UCEPC0302	Fluid Mechanics	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
3.	PC	UCEPC0303	Solid Mechanics	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
4.	PC	UCEPC0304	Surveying and Geospatial Technology	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
5.	HSSM	UCEEM0305	Engineering Management	2	-	-	2	2	ESE	50	20	20
6.	VEC	UCEVE0306	Environmental Studies	2	-	-	2	2	ISE	50	20	20
7.	PC	UCEPC0331	Fluid Mechanics Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
8.	PC	UCEPC0332	Strength of Materials Laboratory	-	-	2	2	1	ISE	25	10	
9.	PC	UCEPC0333	Surveying Laboratory	-	-	2	2	1	ISE	50	20	
									ESE (POE)	25	10	
10.	OJT (CLPBL)	UCEIL0334	Building Planning and Design Laboratory	-	-	2	2	1	ISE	50	20	
11.	MM	*UCEMM0__	Multi-Disciplinary Minor	2	-	-	2	2	ESE	100	40	
Total:							27	23	Total Marks: 800 Total Credit: 23			

*UCEMM0341	Introduction to Data Science (MM-1)
*UCVMM0341	Basics of Projects and Automation (MM-1)
*UCEMM0342	Introduction to Management (MM-1)

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SEMESTER-IV

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component			
1.	PC	UCEPC0401	Building Construction Technology	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50		
2.	PC	UCEPC0402	Environmental Hydraulics	2	-	-	2	2	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50		
3.	PC	UCEPC0403	Structural Analysis	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50		
4.	PC	UCEPC0404	Hydrology and Water Resources Engineering	2	-	-	2	2	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50		
5.	PC	UCEPC0405	Environmental Chemistry and Microbiology	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50		
6.	VEC	UCEVE0406	Constitution of India	2	-	-	2	2	ISE	50	20	
7.	PC	UCEPC0431	Material Testing Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (OE)	25	10	
8.	PC	UCEPC0432	Environmental Chemistry and Microbiology Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
9.	OJT (MPBL)	UCEIL0471	Mini Project - I	-	-	2	2	1	ISE	25	10	
10.	VSEC	UCEVS0433	Geospatial Laboratory	-	-	2	2	1	ISE	25	10	
11.	CC	UCECC0434	Co-Curricular Activities I	-	-	2	2	1	ISE	50	20	
12.	MM	*UCEMM0__	Multi-Disciplinary Minor	3	-	-	3	3	ESE	100	40	
Total:							28	23	Total Marks: 850 Total Credit: 23			
*UCEMM0441		Statistics for Data Science (MM-II)										
*UCVMM0441		Instrumentation and Data Analytics (MM-II)										
*UCEMM0442		Introduction to Human Resource management (MM-II)										

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SEMESTER-V

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component			
1.	PC	UCEPC0501	Water Supply Engineering	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
2.	PC	UCEPC0502	Transportation Engineering	2	-	-	2	2	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
3.	PC	UCEPC0503	Air Pollution and Control	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
4.	PEC	UCEPE05**	Program Elective – I	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
5.	OE	UCEOE05**	Open Elective – I	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
6.	HSSM	UCEEM0504	Sustainability Management	2	-	-	2	2	ESE	50	20	
7.	PC	UCEPC0531	Water Treatment Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
8.	PC	UCEPC0532	Transportation Engineering Laboratory	-	-	2	2	1	ISE	25	10	
9.	VSEC	UCEVS0533	Environmental Monitoring Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (OE)	25	10	
10.	CEP	UCEIL0571	Mini Project – II	-	-	2	2	1	ISE	25	10	
11.	MM	*UCEMM0__	Multi-Disciplinary Minor	3	-	-	3	3	ESE	100	40	
Total:							27	23	Total Marks: 800 Total Credit: 23			
*UCEMM0541		Python for Data Science (MM-III)										
*UCVMM0541		Applications of AI (MM-III)										
*UCEMM0542		Introduction to Marketing Management (MM-III)										

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Program Electives:

PROGRAM ELECTIVE –I (PEC)								
Sr. No.	Semester	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	V	UCEPE0511	Environmental Sanitation (PE-I)	3	-	-	3	3
2.	V	UCEPE0512	Renewable Energy Engineering (PE-I)	3	-	-	3	3
3.	V	UCEPE0513	Construction Practices (PE-I)	3	-	-	3	3
Total:							3	3

Open Elective Courses:

OPEN ELECTIVE –I (OE)								
Sr. No.	Semester	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	V	UCEOE0521	Water Resources Management	3	-	-	3	3
Total:							3	3

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SEMESTER-VI

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component			
1.	PC	UCEPC0601	Wastewater Engineering	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
2.	PC	UCEPC0602	Solid Waste Management	2	-	-	2	2	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
3.	PC	UCEPC0603	Geotechnical Engineering	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
4.	PEC	UCEPE06**	Program Elective – II	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
5.	OE	UCEOE06**	Open Elective – II	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
6.	AEC	UCEAE0604	Business Communication and Value Science		-	2	2	1	ISE	50	20	
7.	PC	UCEPC0631	Wastewater Engineering Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (OE)	25	10	
8.	PC	UCEPC0632	Geotechnical Engineering Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
9.	PC	UCEPC0633	Programming Laboratory	-	-	2	2	1	ISE	25	10	
10.	FP	UCEIL0671	Design and Drawing of Environmental Systems	-	-	2	2	1	ISE	25	10	
11.	CC	UCECC0634	Co-Curricular Activities II	-	-	2	2	1	ISE	50	20	
12.	MM	*UCEMM0__	Multi-Disciplinary Minor	3	-	-	3	3	ESE	100	40	
Total:							29	23	Total Marks: 850 Total Credit: 23			
*UCEMM0641		Data Analytics (MM-IV)										
*UCVMM0641		Digital Twin and Asset management (MM-IV)										
*UCEMM0642		HR practices in the Organization (MM-IV)										

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PROGRAM ELECTIVE – II (PEC)

Sr. No.	Semester	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	VI	UCEPE0611	Noise Pollution and Control (PE-II)	3	1	-	4	4
2.	VI	UCEPE0612	Irrigation and Hydraulic Structures (PE-II)	3	1	-	4	4
3.	VI	UCEPE0613	Design of Steel Structures (PE-II)	3	1	-	4	4
Total:							4	4

OPEN ELECTIVE –II (OE)

Sr. No.	Semester	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	VI	UCEOE0621	Waste Management	3	-	-	3	3
2.	VI	UCEOE0622	Industrial Health & Safety	3	-	-	3	3
Total:							3	3

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SEMESTER-VII

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component			
1.	PC	UCEPC0701	Design of Concrete Structures	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
2.	PC	UCEPC0702	Advanced Water and Wastewater Treatment	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
3.	PC	UCEPC0703	Quantity Surveying and Valuation	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
4.	PEC	UCEPE07**	Program Elective – III	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
5.	OE	UCEOE07**	Open Elective – III	2	-	-	2	2	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
6.	PC	UCEPC0731	Treatability Studies Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (OE)	25	10	
7.	PC	UCEPC0732	Quantity Surveying and Valuation Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
8.	RM (Project)	UCEIL0771	Project I	-	-	8	8	4	ISE	50	20	
									ESE	50	20	
9.	MM	*UCEMM0__	Multi-Disciplinary Minor	3	-	-	3	3	ESE	100	40	
Total:							29	23	Total Marks: 800 Total Credit: 23			

*UCEMM0741	Mathematical Modelling and Simulation (MM-V)
*UCVMM0741	Automation in Project Implementation (MM-V)
*UCEMM0742	Introduction to Financial Management (MM-V)

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PROGRAM ELECTIVE –III (PEC)

Sr. No.	Semester	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	VII	UCEPE0711	Environment, Health, and Safety (PE-III)	3	-	-	3	3
2.	VII	UCEPE0712	Operation and Maintenance of Environmental Facilities (PE-III)	3	-	-	3	3
3.	VII	UCEPE0713	Transportation Infrastructure (PE-III)	3	-	-	3	3
Total:							3	3

OPEN ELECTIVE-III(OE)

Sr. No.	Semester	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	VII	UCEOE0721	Environmental Policies & Laws	2	-	-	2	2
2.	VII	UCEOE0722	Environmental Impact Assessment	2	-	-	2	2
Total:							2	2

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SEMESTER-VIII

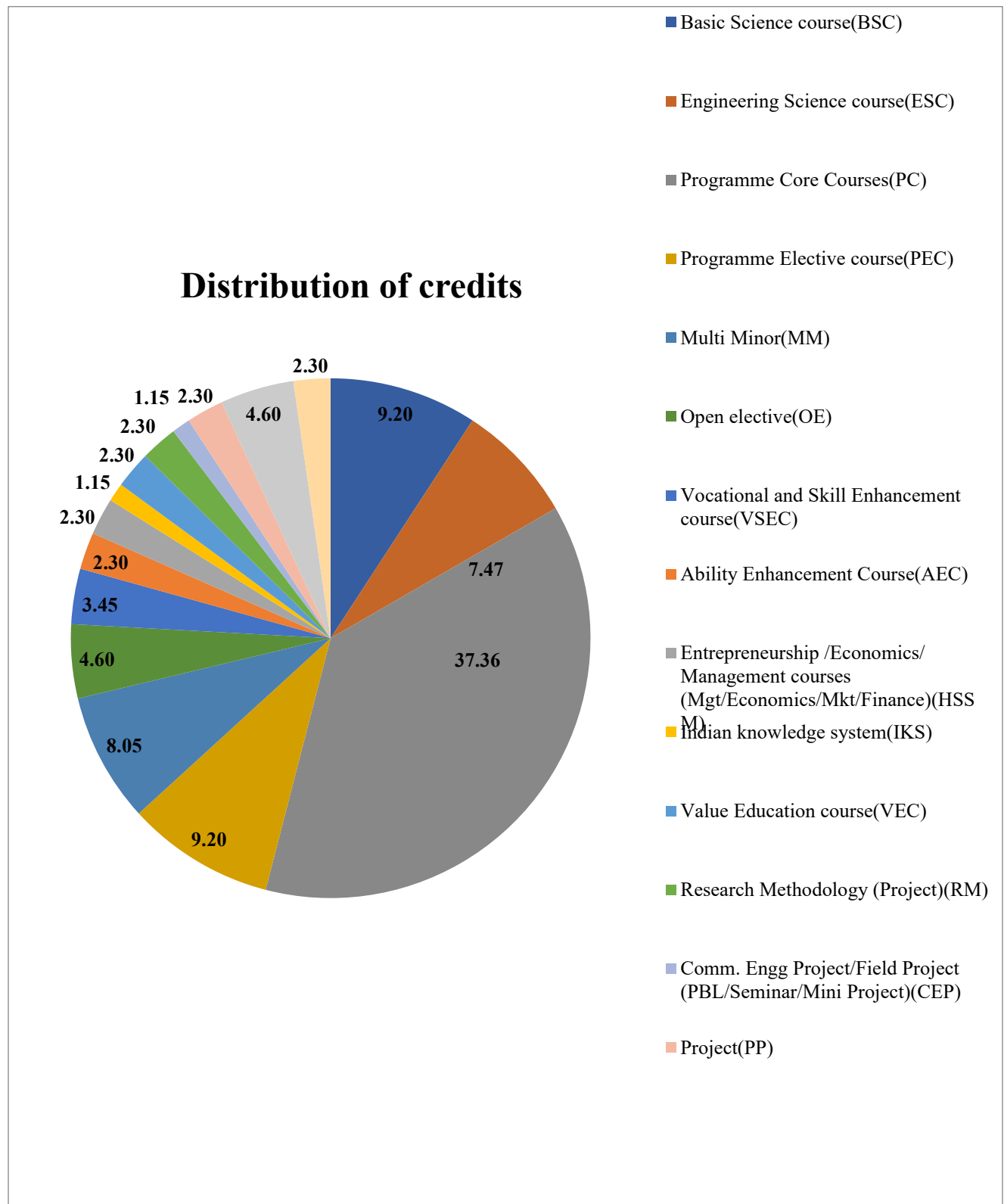
Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component			
1.	PEC	UCEPE08**	Program Elective – IV	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
2.	PEC	UCEPE08**	Program Elective – V	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
3.	PP	UCEIL0871	Project II	-	-	8	8	4	ISE	50	20	40
									ESE	50	20	
4.	OJT	UCEIL0872	Internship	-	-	12	12	6	ISE I	75	30	60
									ISE II	75	30	
5.	CC	UCECC0831	Co-Curricular Activities	-	-	2	2	1	ISE	50	20	
Total:							28	17	Total Marks: 500 Total Credit: 17			

PROGRAM ELECTIVE – IV(PEC)

Sr. No.	Semester	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	VIII	UCEPE0811	Advanced Construction Technology (PE-IV)	3	-	-	3	3
2.	VIII	UCEPE0812	Industrial Wastewater Treatment (PE-IV)	3	-	-	3	3
3.	VIII	UCEPE0813	Urban and Rural Planning (PE-IV)	3	-	-	3	3
4.	VIII	UCEPE0814	Environmental Impact Assessment & Legislation (PE-IV)	3	-	-	3	3
Total:							3	3

PROGRAM ELECTIVE –V (PEC)

Sr. No.	Semester	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	VIII	UCEPE0815	Environmental Management System (PE-V)	3	-	-	3	3
2.	VIII	UCEPE0816	Project Management (PE-IV)	3	-	-	3	3
3.	VIII	UCEPE0817	Environmental Social Governance (PE-V)	3	-	-	3	3
4.	VIII	UCEPE0818	Hazardous Waste Management (PE-V)	3	-	-	3	3
Total:							3	3



Pie chart showing the distribution of credits.

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

MULTIDISCIPLINARY MINOR IN DATA SCIENCE (MDM-DS)

Sr. No.	Seme	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	III	UCEMM0341	Introduction to Data Science (MM-I)	2	-	-	2	2
2.	IV	UCEMM0441	Statistics for Data Science (MM-II)	3	-	-	3	3
3.	V	UCEMM0541	Python for Data Science (MM-III)	3	-	-	3	3
4.	VI	UCEMM0641	Data Analytics (MM-VI)	3	-	-	3	3
5.	VII	UCEMM0741	Mathematical Modeling & Simulation (MM-V)	3	-	-	3	3
Total:							14	14

MULTIDISCIPLINARY MINOR in PROJECT AUTOMATION (MDM-PE)

Sr. No.	Sem	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	III	UCVMM0341	Basics of Projects and Automation (MM-I)	2	-	-	2	2
2.	IV	UCVMM0441	Instrumentation and Data Analytics (MM-II)	3	-	-	3	3
3.	V	UCVMM0541	Applications of AI (MM-III)	3	-	-	3	3
4.	VI	UCVMM0641	Digital Twin and Asset Management (MM-IV)	3	-	-	3	3
5.	VII	UCVMM0741	Automation in Project Implementation (MM-V)	3	-	-	3	3
Total:							14	14

MULTIDISCIPLINARY MINOR In LEADERSHIP and MANAGEMENT (MDM-HRD)

Sr. No.	Seme	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1.	III	UCEMM0342	Introduction to Management (MM-I)	2	-	-	2	2
2.	IV	UCEMM0442	Introduction to Human Resource Management (MM-II)	3	-	-	3	3
3.	V	UCEMM0542	Introduction to Marketing Management (MM-III)	3	-	-	3	3
4.	VI	UCEMM0642	HR Practices in the Organization (MM-IV)	3	-	-	3	3
5.	VII	UCEMM0742	Introduction to Financial Management (MM-V)	3	-	-	3	3
Total:							14	14

