Government College of Engineering Aurangabad Chhatrapati Sambhajinagar

(An Autonomous Institute of Government of Maharashtra)
Station Road, Osmanpura, Aurangabad – 431005 (M.S.)
Phone – (0240) 2366101, 2366111, Fax (0240) 2332835

Structure for First Year, Second Year, Third Year and Final Year B. Tech. in Civil Engineering with Multidisciplinary Minor Degree

(NEP Compliant)

(With Effect from Academic Year 2023-24)

Dr. S. S. Koranne
Head, Civil Engg.

Dr. Anil Karwankar
Dean , Academics

Approved Curriculum in XXXth Academic Council Meeting
Dated: 5th July 2025

Vision of the Institute

- In pursuit of global competitiveness, the institute is committed to excel in engineering education and research with concern for environment and society.

Mission of the Institute

- Provide conducive environment for academic excellence in engineering education.
- Enhance research and development along with promotion to sponsored projects and industrial consultancy.
- Foster development of students by creating awareness for needs of society, sustainable development and human values.

Motto of the Civil Engineering Department

To Build Strong Nation through Dedication

Vision of the Civil Engineering Department

To create, preserve and promulgate knowledge of civil engineering and thereby, contribute to the social, cultural, and economic well-being of the society.

Mission of the Civil Engineering Department

1. To maintain highest possible quality of civil engineering courses for developing competent, cultured, and responsible human resource.
2. To design, develop and direct activities of civil engineering discipline.
3. To extend civil engineering facilities to stakeholders.
4. To undertake Research & Development activities in civil engineering.
5. To develop entrepreneurship amongst the students.

Program Outcomes

After the successful completion of the civil engineering Programme the graduates will have:

1. an ability to apply knowledge of mathematics, science and engineering to solve civil engineering problems.
2. an ability to identify, formulate and analyze civil engineering problems.
3. an ability to develop and design system components and processes related with civil engineering to meet desired standards
4. an ability to conduct experiments and to analyze and interpret experimental results and data
5. an ability to use techniques, skills and modern engineering tools for successful engineering practice
6. an ability to supervise and direct activities of civil engineering works as per rules, regulations and standards
7. an ability to complete task to meet desire needs, within realistic constraints such as financial, environmental, social, and sustainability.
8. an understanding of professional and ethical responsibility
9. an ability to function on multidisciplinary project or research team
10. an ability to communicate and interact effectively with the stakeholders.
11. an understanding of the elements of project management and finance.
12. an ability to recognize the need for lifelong learning to keep pace with technological advancement

GENERAL COURSE STRUCTURE & THEME

A. Definition of Credit:

1 Hr. Lecture (L) per week	1 Credit
1 Hr. Tutorial (T) per week	1 Credit
1 Hr. Practical (P) per week	0.5 Credit
2 Hours Practical (P) per week	1 Credit

B. Range of Credits: (B.E./B.Tech. or Equivalent) in Engg. /Tech. with Multidisciplinary Minor:

In the light of the fact that a typical NEP Compliant Model Four-year Under Graduate degree program in Engineering has about 170 credits, the total number of credits proposed for the four-year B.Tech. in CivilEngineering with Multidisciplinary minor degree is kept as **170**

C. Semester wise Credit Distribution Structure for Four Year UG Program in Civil Engineering with One Multidisciplinary Minor:

Semester		I	II	III	IV	V	VI	VII	VIII	Total Credits
Basic Science Course	BSC/ESC	08	08	-	-	-	-	-	-	**16**
Engineering Science Course		07	06	-	-	-	-	-	-	**13**
Programme Core Course (PCC)	Program Courses	-	03	12	11	12	15	-	-	**53**
Programme Elective Course (PEC)		-	-	-	-	04	04	12	-	**20**
Multidisciplinary Minor (MD M)	Multidisciplinary Courses	-	-	02	02	04	02	02	02	**14**
Open Elective (OE) Other than a particular program		-	-	04	02	02	-	-	-	**08**
Vocational and Skill Enhancement Course (VSEC)	Skill Courses	02	02	-	02	-	02	-	-	**08**
Ability Enhancement Course (AEC -01, AEC-02)	Humanities Social Science and Management (HSSM)	-	02	-	02	-	-	-	-	**04**
Entrepreneurship/Economics/ Management Courses		-	-	02	02	-	-	-	-	**04**
Indian Knowledge System (IKS)		02	-	-	-	-	-	-	-	**02**
Value Education Course (VEC)		-	-	02	02	-	-	-	-	**04**
Research Methodology	Experiential Learning Courses	-	-	-	-	-	-	02	-	**02**
Comm. Engg. Project (CEP)/Field Project (FP)		-	-	02	-	-	-	-	-	**02**
Project		-	-	-	-	-	-	-	04	**04**
Internship/ OJT		-	-	-	-	-	-	-	12	**12**
Co-curricular Courses (CC)	Liberal Learning Courses	02	02	-	-	-	-	-	-	**04**
Total Credits (Major)		**21**	**23**	**24**	**23**	**22**	**23**	**16**	**18**	**170**

Students can opt for any of the following as per the rules and regulations given by institute:

1. B. Tech with Multidisciplinary Minor = Total 176 Credits
2. B. Tech with Multidisciplinary Minor and One Honor = Total 194 Credits
3. B. Tech with one Multidisciplinary Minor and Honor by Research = Total 194 Credits
4. B. Tech with two Multidisciplinary Minors = Total 194 Credits

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D. Category-wise Courses

D1. BASIC SCIENCE COURSE [BSC]

S. No	Category	Course Title	Semester	Hours per week			Total Credits
				Lecture	Tutorial	Practical	
1	BSC	Mathematics – I	I	3	1	0	**04**
2	BSC	Optics, Acoustics and Engineering materials	I	3	0	0	**03**
3	BSC	Lab Physics	I	0	0	2	**01**
4	BSC	Mathematics – II	II	3	1	0	**04**
5	BSC	Battery Science, Lubricants and Green Chemistry	II	3	0	0	**03**
6	BSC	Lab Chemistry	II	0	0	2	**01**
Total Credits							**16**

D2. ENGINEERING SCIENCE COURSE [ESC]

S. No	Category	Course Title	Semester	Hours per week			Total Credits
				Lecture	Tutorial	Practical	
1	ESC	Engineering Mechanics	I	3	0	0	**03**
2	ESC	Lab- Engineering Mechanics	I	0	0	2	**01**
3	ESC	Basics of Civil Engineering	I	2	0	0	**02**
4	ESC	Lab- Basics of Civil Engineering	I	0	0	2	**01**
5	ESC	Civil Engineering Drawing	II	2	0	0	**02**
6	ESC	Lab-Civil Engineering Drawing	II	0	0	2	**01**
7	ESC	Programming for Problem Solving	II	2	0	0	**02**
8	ESC	Lab- Programming for Problem Solving	II	0	0	2	**01**
Total Credits							**13**

D3. VOCATIONAL AND SKILL ENHANCEMENT COURSE (VSEC)

S. No	Category	Course Title	Semester	Hours per week			Total Credits
				Lecture	Tutorial	Practical	
1	VSEC	Engineering Exploration	I	0	0	4	**02**
2	VSEC	Civil Engineering Workshop	II	0	0	4	**02**
3	VSEC	Python Programming	IV	0	0	4	**02**
4	VSEC	Software for Civil Engineering	VI	0	0	4	**02**
Total Credits							**08**

D4. HUMANITIES & SOCIAL SCIENCES COURSES [HSSM]

S. No	Category	Course Title	Semester	Hours per week			Total Credits
				Lecture	Tutorial	Practical	
1	Indian Knowledge System (IKS)	Indian Knowledge System (IKS)	I	2	0	0	**02**
2	Ability Enhancement Course (AEC)	Communication Skills	II	2	0	0	**02**
3	Entrepreneurship/Economics/ Management Courses	Engineering Economics	III	2	0	0	**02**
4	Value Education Course (VEC)	Environmental Science	III	2	0	0	**02**
5	Ability Enhancement Course (AEC)	Technical Report Writing	IV	0	0	4	**02**
6	Entrepreneurship/Economics/ Management Courses	Finance and Accounting	IV	2	0	0	**02**
7	Value Education Course (VEC)	Universal Human Values -II	IV	2	0	0	**02**
Total Credits							**14**

D5. EXPERIENTIAL LEARNING COURSES (ELC)

S. No	Category	Course Title	Semester	Hours per week			Total Credits
				Lecture	Tutorial	Practical	
1	Comm. Engg. Project (CEP)/ Field Project (FP)	Mini Project	III	0	0	4	**02**
2	Research Methodology	Research Methodology	VII	2	1	0	**02**
3	Project	Project	VIII	0	0	8	**04**
4	Internship/ OJT	Internship	VIII	-	-	-	**12**
Total Credits							**20**

D6. LIBERAL LEARNING COURSES (CO-CURRICULAR COURSES (CC))

S. No	Category	Course Title	Semester	Hours per week			Total Credits
				Lecture	Tutorial	Practical	
1	CC	Yoga	I	1	0	2	**02**
2	CC	NSS/ Sports/ Clubs Activities	II	0	0	4	**02**
Total Credits							**04**

D7. MULTIDISCIPLINARY MINOR (MD M) and OPEN ELECTIVE (OE) OTHER THAN A PARTICULAR PROGRAM

List of Multidisciplinary Minor Courses from other faculties: Total 14 Credits
Open electives of 8 credits can be offered from these other faculties.

Specialization	Dramatics	Film Making	Fine Art	Music
Multi-disciplinary Minor - 01	Dramatic Theory, Literature	Videography + Cinematography	Applied Art (Digital Art)	Theory of Indian Music
Multi-disciplinary Minor – 02	Acting	Video Editing and Lighting	Painting (Generative Art)	Ancient and Modern Poetry
Multi-disciplinary Minor – 03	Directing	Story telling Story Boarding	Sculpture (3D-Space)	The Evolution of music
Multi-disciplinary Minor – 04	Playwriting	UI/UX and Animation	Visual Communication (Evolutionary Art)	Music and Film
Multi-disciplinary Minor – 05	Applied Interactive Theatre	Art of Visual Communication	Graphics Art (Print & Printing Art)	Introduction to Electronic & Computer Music
Multi-disciplinary Minor - 06	Technical Theatre	Film & TV Directing	Art Culture	Analysis of Tonal Music

Specialization	Management & Finance	Law	Social Science	Journalism
Multi-disciplinary Minor - 01	Microeconomics	Constitutional Law	Indian Economics	Principles of Communication
Multi-disciplinary Minor – 02	Corporate Social Responsibility	Human Rights & International Law	Introduction to Sociology	Fundamentals of Journalism
Multi-disciplinary Minor – 03	Principles of Accounting	Environmental Law	Geo-Informatics	Cyber Journalism
Multi-disciplinary Minor – 04	Business Intelligence	Civil Procedure Code (CPC)	Introduction to Political Sciences	Basics of Design & Graphics
Multi-disciplinary Minor – 05	Marketing Research	Land Laws including ceiling and other local laws	Corporate sociology	Mass Communication: Concepts & Processes
Multi-disciplinary Minor - 06	Corporate Governance and Business Ethics	Cyber Law	Modern India- Political, Economic & Social Ethos	IT and Online Journalism

Following courses are offered as Multidisciplinary Minor by Civil Engineering Department

A) Civil Engineering Group

S. No	Category	Course Title	Semester	Hours per week			Total Credits
				Lecture	Tutorial	Practical	
1	MD M	Artificial Intelligence in Civil Engineering	III	3	0	0	**03**
2	MD M	Lab. Artificial Intelligence in Civil Engineering	III	0	0	2	**01**
3	MD M	AI Powered Hydrologic Systems	IV	3	0	0	**03**
4	MD M	Application of AI in Surveying	V	3	0	0	**03**
5	MD M	Lab- Application of AI in Surveying	V	0	0	2	**01**
6	MD M	Transportation Infrastructure and Smart Technologies	VI	3	0	0	**03**
Total Credits							**14**

*Equivalent online courses (NPTEL/SWAYAM/MOOC/COURSERA/OTHERS) will be approved by BoS

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Following courses are offered as Open Electives (OE) by Civil Engineering Department

S. No	Category	Course Title	Semester	Hours per week			Total Credits
				Lecture	Tutorial	Practical	
1	OE	Rural Technology	III	3	0	0	**03**
3	OE	**Disaster Management**	IV	3	0	0	**03**
4	OE	**Watershed Management**	V	2	0	0	**02**
Total Credits							**08**

D8. HONORS

Student has to choose One Honor out of the Honor groups provided below

D8A: Honors: Structural Engineering

Sr. No.	Course Code	Course Title	Semester	Scheme of Teaching (Hrs/week)			Total Credit
				Theory	Tutorial	Practical	
1	AMHNC7001	Advanced Concrete Technology	V	3	0	0	3
2	AMHNC7005	Lab- Advanced Concrete Technology	V	0	0	2	1
3	AMHNC7002	Advanced Structural Analysis	VI	4	0	0	4
4	AMHNC7003	Pre-stressed Concrete Design	VI	3	0	0	3
5	AMHNC7006	Lab-Pre-stressed Concrete Design	VII	0	0	2	1
6	AMHNC7004	Earthquake Analysis and Design of Structures	VII	3	0	0	3
7	AMHNC7007	Lab-Earthquake Analysis and Design of Structures	VIII	0	0	2	1
8	AMHNC7008	Mini Project	VIII	0	0	4	2
Total Credits							18

D8B: Honors: Environmental Engineering

Sr. No.	Course Code	Course Title	Semester	Scheme of Teaching (Hrs/week)			Total Credits
				Theory	Tutorial	Practical	
1	CEHNC7001	Advanced Water and Waste Water Treatment	V	3	0	0	3
2	CEHNC7005	Lab-Advanced Water and Waste Water Treatment	V	0	0	2	1
3	CEHNC7002	Air Pollution and Control	VI	3	0	0	3
4	CEHNC7006	Lab- Air Pollution and Control	VI	0	0	2	1
5	CEHNC7003	Solid Waste Management	VII	3	0	0	3
6	CEHNC7007	Lab- Solid Waste Management	VII	0	0	2	1
7	CEHNC7004	Environmental Impact Assessment	VIII	3	0	0	3
8	CEHNC7008	Lab-Environmental Impact Assessment	VIII	0	0	2	1
9	CEHNC7009	Mini Project	VIII	0	0	4	2
Total Credits							18

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D8C: Honors: Water Resources Engineering

Sr. No.	Course Code	Course Title	Semester	Scheme of Teaching (Hrs/week)			Credit
				Theory	Tutorial	Practical	
1	CEHNC7010	Advanced Fluid Mechanics and Hydraulic Machinery	V	3	0	0	3
2	CEHNC7014	Lab- Advanced Fluid Mechanics and Hydraulic Machinery	V	0	0	2	1
3	CEHNC7011	Open Channel Hydraulics	VI	3	0	0	3
4	CEHNC7015	Lab-Open Channel Hydraulics	VI	0	0	2	1
5	CEHNC7012	Ground Water Engineering	VII	3	0	0	3
6	CEHNC7016	Lab- Ground Water Engineering	VII	0	0	2	1
7	CEHNC7013	Water Resources Systems and Management	VIII	3	0	0	3
8	CEHNC7017	Lab-Water Resources Systems and Management	VIII	0	0	2	1
9	CEHNC7018	Mini Project	VIII	0	0	4	2
Total Credits							18

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B. Tech. Program in Civil Engineering with Multidisciplinary Minor

First Year

Semester -I											
			Teaching Scheme			Continuous Evaluation in terms of Marks					
	Course Code	Course Name	TH	T	PR	Credits	ISE I	ISE II	ISE III	ESE	Total
BSC-01	MABSC1001	Mathematics I	3	1	-	4	15	15	10	60	100
BSC-02	PHBSC1001	Optics, Acoustics and Engineering Materials	3	-	0	3	15	15	10	60	100
BSC-03	PHBSC1003	Lab Physics			2	1			25		25
ESC-01	AMESC1001	Engineering Mechanics	3	0		3	15	15	10	60	100
ESC-02	AMESC1003	Lab- Engineering Mechanics			2	1			50		50
ESC-03	CEESC1001	Basics of Civil Engineering	2	0	0	2	10	10	0	30	50
ESC-04	CEESC1002	Lab- Basics of Civil Engineering	0	0	2	1			50		50
VSEC-01	ETVSE1002	Engineering Exploration	0	0	4	2	20	20	10		50
CC-01	INCCC1101	Yoga and Meditation	1	0	2	2	20	20	10		50
IKS	CEIKS1001	IKS	2	0	0	2	10	10		30	100
Total			13	1	14	21	105	105	175	240	675
Semester –II											
	Course Code	Course Name	TH	T	PR	Credits	ISE I	ISE II	ISE III	ESE	Total
BSC-04	MABSC1003	Mathematics II	3	1	-	4	15	15	10	60	100
BSC-05	CHBSC1002	Battery Science, Lubricants and Green Chemistry	3	-	0	3	15	15	10	60	100
BSC-06	CHBSC1003	Lab Chemistry			2	1			25		25
ESC-05	CEESC1003	Civil Engineering Drawing	2	0		2	10	10		30	50
ESC-06	CEESC1004	Lab-Civil Engineering Drawing			2	1			25		25
ESC-07	CSESC1005	Programming for Problem Solving	2	0	0	2	10	10		30	50
ESC-08	CSESC1006	Lab- Programming for Problem Solving	0	0	2	1			25		25
VSEC-2	CEVSE1001	Civil Engineering Workshop	0	0	4	2			50		50
AEC-01	INAEC1001	Communication Skill	2	0	0	2	10	10		30	50
CC-02	INCCC1002 /INCC1003/ INCCC1004	NSS/ Sports/ Club Activities	0	-	4	2	20	20	10		50
PCC-01	CEPCC1001	Engineering Geology	2	0	0	2	10	10		30	50
PCC-02	CEPCC1002	Lab-Engineering Geology	0	0	2	1			25		25
Total			15	1	14	23	100	100	190	210	600

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Second Year

Semester -III											
			Teaching Scheme			Continuous Evaluation in terms of Marks					
	Course Code	Course Name	TH	T	PR	Credits	ISE I	ISE II	ISE III	ESE	Total
PCC	CEPCC2001	Surveying	3	0	0	3	15	15	10	60	100
PCC	CEPCC2003	Lab-Surveying	0	0	2	1			25	25	50
PCC	CEPCC2002	Fluid Mechanics	3	0	0	3	15	15	10	60	100
PCC	CEPCC2004	Lab-Fluid Mechanics	0	0	2	1			25	25	50
MD(M)	CEMDM5001	Multidisciplinary Minor	3	0	0	3	15	15	10	60	100
MD(M)	CEMDM5002	Lab. Multidisciplinary Minor	0	0	2	1			25	25	50
OE	CEOEC0010	Open Elective-I	3	0	0	3	15	15	10	60	100
HSSM	CEEEM0010	Engineering Economics	2	0	0	2	10	10		30	50
VEC	CEVEC0010	Environmental Science	2	0	0	2	10	10		30	50
PCC	AMPCC2001	Solid Mechanics	3	0	0	3	15	15	10	60	100
PCC	AMPCC2002	Lab-Solid Mechanics	0	0	2	1			25	25	50
FP/CEP	CECEP1001	Mini Project	0	0	4	2		-	50	50	100
Total			19	0	12	25	95	95	200	510	900
		Multidisciplinary Minor:									
	CEMDM5001	Artificial Intelligence In Civil Engineering									
	CEMDM5002	Lab. Artificial Intelligence In Civil Engineering									
		Open Elective-I:									
	CEOEC0010:	Rural Technology									
Semester –IV											
	Course Code	Course Name	TH	T	PR	Credits	ISE I	ISE II	ISE III	ESE	Total
PCC	AMPCC2003	Concrete Technology	3	0	0	2	15	15	10	60	100
PCC	AMPCC2004	Lab-Concrete Technology	0	0	2	1			25	25	50
PCC	CEPCC2005	Building, Planning and Design	3	0	0	3	15	15	10	60	100
PCC	CEPCC2007	Lab- Building, Planning and Design	0	0	2	1			25	25	50
PCC	CEPCC2006	Environmental Engineering	3	0	0	3	15	15	10	60	100
PCC	CEPCC2008	Lab-Environmental Engineering	0	0	2	1			25	25	50
OE	CEOEC1020	Open Elective-II	3	0	0	3	15	15	10	60	100
MD(M)-2	CEMDM5003	Multidisciplinary Minor	3	0	0	3	15	15	10	60	100
HSSM	CEEEM1020	Finance and Accounting	2	0	0	2	10	10		30	50
VSEC	CEVSE2001	Lab- Python Programming	0	0	4	2			50		50
AEC- 02	INAEC1002	Lab-Technical Report Writing	0	0	4	2		0	50	0	50
VEC	CEVEC1010	Universal Human Values-II	2	0	0	2	10	10		30	50
Total			19	0	14	25	95	95	225	435	850
		Multidisciplinary Minor:									
	CEMDM5003	AI Powered Hydrologic System									
		Open Elective-II:									
	CEOEC1020	Disaster Management									

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Third Year

Semester –V											
			Teaching Scheme			Continuous Evaluation in terms of Marks					
	Course Code	Course Name	TH	T	PR	Credits	ISE I	ISE II	ISE III	ESE	Total
PCC	CEPCC3001	Transportation Engineering	3	0	0	3	15	15	10	60	100
PCC	CEPCC3003	Lab-Transportation Engineering	0	0	2	1			25	25	50
PCC	CEPCC3002	Geotechnical Engineering	3	0	0	3	15	15	10	60	100
PCC	CEPCC3004	Lab-Geotechnical Engineering	0	0	2	1			25	25	50
PCC	AMPCC3001	Design of Steel Structures	3	0	0	3	15	15	10	60	100
PCC	AMPCC3002	Lab-Design of Steel Structures	0	0	2	1			25	25	50
PEC		Program Elective- I	3	0	0	3	15	15	10	60	100
PEC		Lab-Program Elective-I	0	0	2	1			25	25	50
OE	CEOEC0030	Open Elective-III	2	0	0	2	10	10		30	50
MD(M)	CEMDM5004	Multidisciplinary Minor	3	0	0	3	15	15	10	60	100
MD(M)	CEMDM5005	Lab-MD(M)	0	0	2	1		0	25	25	50
Total			17	0	10	22	85	85	175	455	800
		Multidisciplinary Minor:									
	CEMDM5004	Application of AI in Surveying									
	CEMDM5005	Lab- Application of AI in Surveying									
		Open Elective-III									
	CEOEC0030	Watershed Management									
Semester –VI											
	Course Code	Course Name	TH	T	PR	Credits	ISE I	ISE II	ISE III	ESE	Total
PCC	AMPCC3003	Structural Analysis	3	0	0	3	15	15	10	60	100
PCC	AMPCC3004	Design of R.C.C. Structures	3	0	0	3	15	15	10	60	100
PCC	AMPCC3005	Lab-Design of R.C.C. Structures	0	0	2	1			25	25	50
PCC	CEPCC3005	Water Resources Engineering	3	0	0	3	15	15	10	60	100
PCC	CEPCC3007	Lab-Water Resources Engineering	0	0	2	1			25	25	50
PCC	CEPCC3006	Estimating, Costing and Valuation	3	0	0	3	15	15	10	60	100
PCC	CEPCC3008	Lab-Estimating, Costing and Valuation	0	0	2	1			25	25	50
PEC		Program Elective II	3	0	0	3	15	15	10	60	100
PEC		Lab-program Elective II	0	0	2	1			25	25	50
MD(M)	CEMDM5006	Multidisciplinary Minor	3	0	0	3	15	15	10	60	100
VSEC	CEVSE3001	Software for Civil Engineering	0	0	4	2			50		50
Total			18	0	12	24	90	90	210	460	850
		Multidisciplinary Minor:									
	CEMDM5006	Transportation Infrastructure and Smart Technology									

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Fourth Year

Semester –VII											
			Teaching Scheme			Continuous Evaluation in terms of Marks					
	Course Code	Course Name	TH	T	PR	Credits	ISE I	ISE II	ISE III	ESE	Total
PEC		Programme Elective- III	3	0	0	3	15	15	10	60	100
PEC		Lab-Programme Elective-III	0	0	2	1			25	25	50
ELC	CERMC4001	Research Methodology	3	1	0	2	10	10		30	50
PEC		Programme Elective-IV	3	0	0	3	15	15	10	60	100
PEC		Lab-Programme Elective-IV	0	0	2	1			25	25	50
PEC		Programme Elective-V	3	0	0	3	15	15	10	60	100
PEC		Lab-Programme Elective-V	0	0	2	1			25	25	50
Total			12	1	6	14	55	55	105	285	500
Semester –VIII											
	Course Code	Course Name	TH	T	PR	Credits	ISE I	ISE II	ISE III	ESE	Total
OJT	CEINT4001	Internship	-	-	-	12			50	50	100
Project	CEPRJ4001	Project	0	0	8	4		0	100	100	200
Total			0	0	8	16	0	0	150	150	300

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Bridge Courses for Exit:-

After First Year:	The candidate should complete the internship of two months for 8 credits
After Second Year:	The candidate should complete the internship of two months for 8 credits
After Third Year:	The candidate should complete the internship of two months for 8 credits

Programme Elective-I

Sr. No.	Course Code	Course Title	Scheme of Teaching (Hrs/week)			Credit
			Theory	Tutorial	Practical	
1	AMPEC3001	Advanced Concrete Technology	3	0	0	3
2	CEPEC3001	Advanced Surveying	3	0	0	3
3	CEPEC3002	Town Planning	4	0	0	4
4	CEPEC3003	Advanced Fluid Mechanics and Hydraulic Machinery	3	0	0	3
5	CEPEC3004	Advanced Water and Waste Water Treatment	3	0	0	3
6	AMPEC3002	Design of Precast and Composite Structures	3	0	0	3
7	AMPEC3003	Lab- Advanced Concrete Technology	0	0	2	1
8	CEPEC3005	Lab-Advanced Surveying	0	0	2	1
9	CEPEC3006	Lab- Advanced Fluid Mechanics and Hydraulic Machinery	0	0	2	1
10	CEPEC3007	Lab-Advanced Water and Waste Water Treatment	0	0	2	1
11	AMPEC3004	Lab-Design of Precast and Composite Structures	0	0	2	1

Programme Elective-II

Sr. No.	Course Code	Course Title	Scheme of Teaching (Hrs/week)			Credit
			Theory	Tutorial	Practical	
1	CEPEC3008	Ground Improvement Techniques	3	0	0	3
2	CEPEC3009	Open Channel Hydraulics	3	0	0	3
3	CEPEC3010	Air Pollution and Control	3	0	0	3
4	CEPEC3011	Advanced Transportation Engineering	3	0	0	3
5	CEPEC3012	Civil Engineering Laws	4	0	0	4
6	AMPEC3006	Design of Advanced Steel Structures	3	0	0	3
7	CEPEC3013	Lab-Ground Improvement Techniques	0	0	2	1
8	CEPEC3014	Lab-Open Channel Hydraulics	0	0	2	1
9	CEPEC3015	Lab- Air Pollution and Control	0	0	2	1
10	CEPEC3016	Lab- Advanced Transportation Engineering	0	0	2	1
11	AMPEC3007	Lab - Design of Advanced Steel Structures	0	0	2	1

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Programme Elective-III

Sr. No.	Course Code	Course Title	Scheme of Teaching (Hrs/week)			Credit
			Theory	Tutorial	Practical	
1	AMPEC4001	Design of Bridges	3	0	0	3
2	CEPEC4001	Ground Water Engineering	3	0	0	3
3	CEPEC4002	Water Power Engineering	3	0	0	3
4	AMPEC4002	Design of Advanced RC Structures	3	0	0	3
5	CEPEC4003	Solid Waste Management	3	0	0	3
6	CEPEC4004	Construction Management	3	0	0	3
7	AMPEC4003	Lab-Design of Bridges	0	0	2	1
8	CEPEC4005	Lab- Ground Water Engineering	0	0	2	1
9	CEPEC4006	Lab-Water Power Engineering	0	0	2	1
10	AMPEC4004	Lab- Design of Advanced RC Structures	0	0	2	1
11	CEPEC4006	Lab- Solid Waste Management	0	0	2	1
12	CEPEC4007	Lab- Construction Management	0	0	2	1

Programme Elective-IV

Sr. No.	Course Code	Course Title	Scheme of Teaching (Hrs/week)			Credit
			Theory	Tutorial	Practical	
1	AMPEC4005	Pre-stressed Concrete Design	3	0	0	3
2	CEPEC4008	Industrial Waste Management	3	0	0	3
3	CEPEC4009	Infrastructural Development	3	0	0	3
4	CEPEC4010	Advanced Geotechnical Engineering	3	0	0	3
5	AMPEC4006	Building Maintenance and Repairs	3	0	0	3
6	AMPEC4007	Lab-Pre-stressed Concrete Design	0	0	2	1
7	CEPEC40111	Lab-Industrial Waste Management	0	0	2	1
8	CEPEC4012	Lab-Infrastructural Development	0	0	2	1
9	CEPEC4013	Lab-Advanced Geotechnical Engineering	0	0	2	1
10	AMPEC4008	Lab-Building Maintenance and Repairs	0	0	2	1

Programme Elective-V

Sr. No.	Course Code	Course Title	Scheme of Teaching (Hrs/week)			Credit
			Theory	Tutorial	Practical	
1	AMPEC4009	Earthquake Analysis and Design of Structures	3	0	0	3
2	AMPEC3005	Advanced Structural Analysis	4	0	0	4
3	CEPEC4014	Water Resources Systems and Management	3	0	0	3
4	CEPEC4015	Environmental Impact Assessment	3	0	0	3
5	CEPEC4016	Engineering Optimization	3	0	0	3
6	AMPEC4010	Finite Element Method				
7	AMPEC4011	Lab-Earthquake Analysis and Design of Structures	0	0	2	1
8	CEPEC4017	Lab-Water Resources Systems and Management	0	0	2	1
9	CEPEC4018	Lab-Environmental Impact Assessment	0	0	2	1
10	CEPEC4019	Lab-Engineering Optimization	0	0	2	1
	AMPEC4012	Lab – Finite Element Method				

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