

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Template for Curriculum Structure of First Year Engineering

Scheme for Semester I of B. Tech. (Civil Engineering with Multidisciplinary Minor) academic year 2023-24

Course Code	Proposed Course Domain	Group	Teaching Scheme*				Evaluation Scheme					Credit	
			L	T	P	Total	Theory			Practical			Total
							MSE	ISA	ESE	ICA	ESE		
SH100AN	Induction Program [Includes Universal Human Values (UHV - I module)]	Mandatory audit course of three weeks duration as per AICTE model curriculum				...	...	...	50	...	50	AU	
SH101N	Engineering Mathematics I	BSC	3	1	...	4	30	10	60	...	...	100	4
SH152N	Engineering Physics	BSC	3	...	...	3	30	10	60	...	...	100	3
EE101N	Basic Electrical Engineering	ESC	3	...	...	3	30	10	60	...	...	100	3
CO101N	Fundamental of Computer Science and Engineering	ESC	3	...	...	3	30	10	60	...	...	100	3
ME101N	Mechanical Workshop Practices	VSEC	...	...	4	4	...	...	...	50	...	50	2
SH153N	Engineering Physics Lab	BSC	...	...	2	2	...	...	...	50	...	50	1
EE102N	Basic Electrical Engineering Lab	ESC	...	...	2	2	...	...	...	50	...	50	1
CO102N	Fundamental of Computer Science and Engineering Lab	ESC	...	...	2	2	...	...	...	50	...	50	1
IK103N	Essence of Indian Traditional Knowledge	IKS	2	...	...	2	30	10	60	...	...	100	2
LL101N	LLC I NSS and Sports	LCC	...	...	4	4	...	...	...	50	...	50	2
Total			14	1	14	29	150	50	300	300	...	800	22

Induction Program :

https://www.aicte-india.org/sites/default/files/student_induction.pdf

<https://www.aicte-india.org/sites/default/files/Detailed%20Guide%20on%20Student%20Induction%20program.pdf>

Cocurricular Course (CC) Liberal Learning Course :

<https://www.coep.org.in/departments/appliedscience/Link3>

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Scheme for Semester II of B. Tech. (Civil Engineering with Multidisciplinary Minor) with effect from academic year 2023-24

Course Code	Proposed Course Domain	Group	Teaching Scheme*				Evaluation Scheme						Credit
							Theory			Practical		Total	
			L	T	P	Total	MSE	ISA	ESE	ICA	ESE		
SH151N	Engineering Mathematics II	BSC	3	1	...	4	30	10	60	...	...	100	4
SH102N	Engineering Chemistry	BSC	3	...	...	3	30	10	60	...	...	100	3
ME151N	Engineering Graphics	ESC	3	...	...	3	30	10	60	...	...	100	3
CE151N	Engineering Mechanics	PCC	3	...	...	3	30	10	60	...	...	100	3
ME152N	Engineering Exploration Workshop	VSEC	...	...	4	4	...	...	...	50	...	50	2
SH103N	Engineering Chemistry Lab	BSC	...	...	2	2	...	...	...	50	...	50	1
ME153N	Engineering Graphics Lab	ESC	..	...	2	2	...	...	...	50	...	50	1
CE152N	Engineering Mechanics Lab	PCC	...	...	2	2	...	...	...	50	...	50	1
LL102N	LLC- II Yoga and Nutrition	LCC	...	...	4	4	...	...	...	50	...	50	2
SH100N	Ability Enhancement Course (English) I	AEC	1	...	2	3	...	...	...	50	...	50	2
Total			13	1	16	30	120	40	240	300	0	700	22

Students exiting the First Year program after securing minimum 40 credits will be awarded UG Certificate in the relevant Discipline /Subject provided they secure 8 credits in work-based vocational courses or internship / Apprenticeship offered during summer vacation in addition to 4 credits from skill-based courses earned during the first and second semester

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Civil Engineering

Scheme for Semester III of B. Tech. (Civil Engineering with Multidisciplinary Minor) (2023-24 Curriculum)

Course Code	Proposed Course Domain	Group	Teaching Scheme				Evaluation Scheme						Credit
							Theory			Practical		Total	
			L	T	P	Total	MSE	ISA	ESE	ICA	ESE		
CE201NX	Open Elective - I	OE	3	1	...	4	30	10	60	...	...	100	4
CEM 202N	MDM I	MDM	2	...	...	2	30	10	60	...	...	100	2
CE203N	Concrete Technology	PCC	3	...	...	3	30	10	60	...	...	100	3
CE204N	Building Planning and Construction	PCC	3	...	...	3	30	10	60	...	...	100	3
CE205N	Strength of Materials	PCC	2	1		2	30	10	60			100	2
CE206N	Concrete Technology Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
CE207N	Building Planning and Construction Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
CE208N	Community Based Mini Project	CEP	1	...	2	3	...	...	...	30	20	50	2
SH203N	Environmental Science	VEC	2	...	...	2	30	20	--	...	...	50	2
SH201N	<i>Project & Finance Management</i>	<i>EEMC</i>	2	...	--	2	30	10	60	--	--	100	2
Total			18	2	6	26	210	80	360	90	60	800	22

Open Elective- I
X- Building materials and construction
Y- Geographic Information System Science and Application

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Civil Engineering

Scheme for Semester IV of B. Tech. (Civil Engineering with Multidisciplinary Minor (2023-24 Curriculum))

Course Code	Proposed Course Domain	Group	Teaching Scheme				Evaluation Scheme					Total	Credit
			L	T	P	Total	Theory			Practical			
							MSE	ISA	ESE	ICA	ESE		
CE251NX	Open Elective - II	OE	2	...	...	2	30	10	60	...	...	100	2
CE252N	Fluid Mechanics	PCC	3	...	...	3	30	10	60	...	...	100	3
CE253N	Surveying I	PCC	3	...	...	3	30	10	60	...	...	100	3
CE254N	Theory of Structure I	PCC	2	1	...	2	30	10	60	...	...	100	2
CEM 255N	MDM II	MDM	2			2	30	10	60	...	...	100	2
SH205N	मराठी लेखन कौशल्य (Writing Skill)	AEC	2	...	...	2	30	20	...	--	...	50	2
CE256N	Surveying Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
CE257N	Fluid Mechanics Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
CE258N	Testing of Materials Lab	VSEC	1	...	2	3	...	...	...	30	20	50	2
SH204 N	Universal Human Values - II	VEC	2	...	...	2	30	70	--	...	...	100	2
SH202N	Entrepreneur Development	EEMC	2	...	...	2	30	10	60	...	...	100	2
Total			19	1	6	26	240	150	360	90	60	900	22

Open Elective- II
X- Green Building
Y-Hydrology

- Students exiting the Second Year Programme after securing minimum 80 credits will be awarded UG Diploma in the relevant Discipline /Subject provided they secure additional 8 credits in skill-based vocational courses (skill-based courses, internship, mini projects etc) offered during summer vacation after the second year
- Students are permitted to earn credit of SH205N for any other India Language(other than English) through MOOCs courses as per credit transfer policy of Institute

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Civil Engineering

Scheme for Semester V of B. Tech. (Civil Engineering with Multidisciplinary Minor) (2023-24 Curriculum)

Course Code	Proposed Course Domain	Group	Teaching Scheme				Evaluation Scheme						Credit
							Theory			Practical		Total	
			L	T	P	Total	MSE	ISA	ESE	ICA	ESE		
CE301N	Hydrology and Irrigation Engg	PC	3	...	...	3	30	10	60	...	...	100	3
CE302N	Theory of Structure II	PC	3	--	...	3	30	10	60	...	...	100	3
CE303N	Design of RCC structure	PC	3	...	...	3	30	10	60	...	...	100	3
CE304N	Program Elective course - I	PE	3	...	...	3	30	10	60	...	...	100	3
CEM305N	MDM III	MDM	3	1		4	30	10	60	...	...	100	4
CE306N	Open Elective-III	OE	2	...	...	2	30	10	60	...	...	100	2
CE307N	Hydrology and Irrigation Engg Lab	PC	...	...	2	2	...	...	...	30	20	50	1
CE308N	Software Engineering Lab I	PC	--	...	2	2	...	...	...	30	20	50	1
CE309N	Design of RCC structure Lab	PC	...	...	2	2	...	...	...	30	20	50	1
CE310N	Program Elective course - I Lab	PE	...	...	2	2	...	...	...	30	20	50	1
			17	1	8	26	180	60	360	120	80	800	22

List of Program Elective course --I
A. Environmental Engineering I
B. Sustainable Construction Practices
C. Surveying II

Open Elective-III offered by the department
X. Environmental Impact Assessment
Y. Industrial Pollution and Control

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON
Department of Civil Engineering

Scheme for Semester VI of B. Tech. (Civil Engineering with Multidisciplinary Minor) (2023-24 Curriculum)

Course Code	Proposed Course Domain	Group	Teaching Scheme				Evaluation Scheme						Credit
							Theory			Practical		Total	
			L	T	P	Total	MSE	ISA	ESE	ICA	ESE		
CE351N	Geotechnical Engg	PC	3	...	...	3	30	10	60	...	...	100	3
CE352N	Highway Engineering	PC	2	...	...	2	30	10	60	...	...	100	2
CE353N	Design of Steel Structure	PC	3	...	...	3	30	10	60	...	...	100	3
CE354N	Program Elective course -- II	PE	3	...	...	3	30	10	60	...	...	100	3
CE355N	Program Elective course -- III	PE	3	...	...	3	30	10	60	...	...	100	3
CEM 356N	MDM IV	MDM	2	...	...	2	30	10	60	...	...	100	2
CE357N	Geotechnical Engg Lab	PC	...	...	2	2	...	...	...	30	20	50	1
CE358N	Design of Steel Structure lab	PC	...	...	2	2	...	...	...	30	20	50	1
CE359N	Software Engg Lab II	VSEC	1	...	2	3	...	...	...	30	20	50	2
CE360N	Program Elective course -- II Lab	PE	...	...	2	2	...	...	...	30	20	50	1
CE361N	Program Elective course -- III Lab	PE	...	...	2	2	...	...	...	30	20	50	1
Total			17	0	10	27	180	60	360	150	100	850	22

List of Program Elective-II	List of Program Elective-III
A. Estimation, Contract and Valuation	A.Environmental Engineering II
B. Study of Design Principles for Fiber Reinforced Concrete	B. Design of Pre Stressed Concrete Structures
C.Bridge Engineering	C. Building Systems and Services

Students exiting the 3-year UG program will be awarded B.Voc. in the relevant Discipline /Subject upon securing minimum 120 credits with additional 8 credits in skill-based vocational courses (skill-based courses, internship, mini projects etc.) offered during summer vacation after the sixth semester

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Civil Engineering

Scheme for Semester VII of B. Tech. (Civil Engineering with Multidisciplinary Minor (2023-24 Curriculum))

Course Code	Proposed Course Domain	Group	Teaching Scheme				Evaluation Scheme						Credit
							Theory			Practical		Total	
			L	T	P	Total	MSE	ISA	ESE	ICA	ESE		
CE401N	MOOCs course 8 week/Online Mode (Foundation Engg)	PC	2	...	...	2	30	10	60	...	...	100	2
CE402N	MOOCs course 8 week/Online Mode (Advanced Design of Steel Structures)	PC	2	...	...	2	30	10	60	...	...	100	2
CE403N	Program Elective course-IV MOOCs course 8 week/Online Mode	PE	2	...	...	2	30	10	60	...	...	100	2
CEM 404N	MOOCs course 8 week/Online Mode MDM V	MDM	2	...	...	2	30	10	60	...	...	100	2
CE405N	Internship / On job Training	INT		...	4	4		...	...	50	50	100	12
Total			8	0	4	12	120	40	240	50	50	500	20

List of Program Elective course-IV

A.Construction Project Management

B.Rural Water Supply and Sanitation

C.Intelligent Transportation system

Credits for internship shall be one credit per two weeks of intership (36-40 hours of engagement). The internship shall be monitored jointly by faculty and Indusrty/ Organisation Mentor

Under Bachelor’s Engg./ Tech. Honours with Research Degree in chosen Major Engg./ Tech. Discipline with Multidisciplinary Minor (180-194 credits), the students will work on a research project or dissertation for 18 credits in the fourth year in the respective Major Engg./ Tech. Discipline.

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Civil Engineering

Scheme for Semester VIII of B. Tech. (Civil Engineering with Multidisciplinary Minor) (2023-24 Curriculum)

Course Code	Proposed Course Domain	Group	Teaching Scheme				Evaluation Scheme					Credit	
			L	T	P	Total	Theory			Practical			Total
							MSE	ISA	ESE	ICA	ESE		
CE451N	Dams and Hydraulic Structure	PC	3	...	...	3	30	10	60	...	...	100	3
CE452N	Program Elective course - IV	PE	3	...	...	3	30	10	60	...	...	100	3
CE453N	Program Elective course- V	PE	3	...	...	3	30	10	60	...	...	100	3
CEM454N	MDM VI	MDM	2	...	...	2	30	10	60	...	...	100	2
CE455N	Dams and Hydraulic Structure Lab	PC	...	...	2	2	...	...	...	30	20	50	1
SH456N	Research Methodology and IPR	RM	3	1	...	4	30	10	60	30	20	150	4
CE457N	Project	PC	...	...	8	8	...	...	...	50	100	150	4
Total			14	1	10	25	150	50	300	110	140	750	20

List of Program Elective course-IV
A. Railway, Airport and Harbour
B. Air and Noise Pollution
C. Earthquake Resistant Structures

List of Program Elective course-V
A. Hazardous Waste Management
B. Advanced R.C.C Design
C. Ground Improvement Techniques

Under Bachelor's Engg./ Tech. Honours with Research Degree in chosen Major Engg./ Tech. Discipline with Multidisciplinary Minor (180-194 credits), the student must complete a research project or dissertation for 18 credits in the fourth year in the respective Major Engg./ Tech. Discipline.

Total Credits: = 172 (Mandatory)

Department of Civil Engineering

Btech in Civil Engineering with multidisciplinary minor and Honor in Structural Engineering (2023-24 Curriculum)

Course Code	Proposed Course Domain	Group	Teaching Scheme				Evaluation Scheme						Credit
							Theory			Practical		Total	
			L	T	P	Total	MSE	ISA	ESE	ICA	ESE		
			Semester V										
CE313N	Design of Formwork	PC	3	...	...	3	30	10	60	...	...	100	3
CE314N	Introduction to Engineering Seismology	PC	3	...	...	3	30	10	60	...	...	100	3
			Semester VI										
CE363N	Design of Earthquake Resistance structure	PC	3	...	...	3	30	10	60	...	...	100	3
			Semester VII										
CE407N	Prefabricated structure	PC	NPTEL COURSE 12 week/Online Mode (If 12 week course not available then 8 week course with the approval of HoD)										3
CE408N	Rehabilitation and Retrofitting of structure		NPTEL COURSE 12 week/Online Mode (If 12 week course not available then 8 week course with the approval of HoD)										3
			Semester VIII										
CE459N	Matrix Method of Structural Analysis	PC	3	--	...	3	30	10	60	--	--	100	3
Total			12	--	--	12	120	40	240	--	--	400	18

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Civil Engineering

Btech in Civil Engineering with multidisciplinary minor and Honor in Water Resources Engineering (2023-24 Curriculum)

Course Code	Proposed Course Domain	Group	Teaching Scheme				Evaluation Scheme						Credit
							Theory			Practical		Total	
			L	T	P	Total	MSE	ISA	ESE	ICA	ESE		
Semester V													
CE315N	Engineering Hydrology and Hydrologic Systems	PC	3	...	...	3	30	10	60	...	...	100	3
CE316N	Groundwater Engineering	PC	3	...	...	3	30	10	60	...	...	100	3
Semester VI													
CE364N	Water Resources Systems Planning and Management	PC	3	...	...	3	30	10	60	...	...	100	3
Semester VII													
CE409N	Advanced Fluid Mechanics	PC	NPTEL COURSE 12 week/Online Mode (If 12 week course not available then 8 week course with the approval of HoD)										3
CE410N	Land and Water Management	PC	NPTEL COURSE 12 week/Online Mode (If 12 week course not available then 8 week course with the approval of HoD)										3
Semester VIII													
CE460N	Hydraulic Structures	PC	3	--	...	3	30	10	60	--	--	100	3
Total			12	--	--	12	120	40	240			400	18

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON
Department of Civil Engineering

Btech in Civil Engineering with multidisciplinary minor and Honor with Research (2023-24 Curriculum)

Course Code	Proposed Course Domain	Group	Teaching Scheme				Evaluation Scheme					Credit	
							Theory			Practical			Total
			L	T	P	Total	MSE	ISA	ESE	ICA	ESE		
Semester VII													
CE411N	Emerging Research Topics in Civil Engg		NPTEL COURSE 8 week/Online Mode						100	100	2
CE412N			ISE marks will be the marks obtained by students in the assignments given by NPTEL							50	...	50	1
CE413N	Research Project (Synopsis) Phase-I								50	50	100	2	
CE414N	Research Specific Core Course-I		NPTEL COURSE 8 week/Online Mode						100			100	2
CE415N			ISE marks will be the marks obtained by students in the assignments given by NPTEL							50		50	1
Semester VII													
CE461N	Research Project								100	50	150	10	
Total								200	250	100	550	18	