

CURRICULUM STRUCTURE

		Semester-I							
S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE		CREDIT S	L	T	P	HRS
1	AST-101	Communication Skills	Theory	HSMC	2	2	0	0	2
2	ASB-101	Engineering Physics I	Theory	BSC	3	3	0	0	3
3	ASB-102	Engineering Chemistry	Theory	BSC	3	3	0	0	3
4	ASB-103	Engineering Mathematics I	Theory	BSC	3	3	0	0	3
5	EES-101	Basics of Electrical Engineering	Theory	ESC	3	3	0	0	3
6	CSS-101	Fundamentals of Computing	Theory	ESC	3	3	0	0	3
7	ASM-101	Environmental Science	Theory	MC-I	2	2	0	0	2
i	ASL-101	Language Laboratory	Lab	HSMC	1	0	0	2	2
ii	ASL-102	Engineering Physics Laboratory I	Lab	BSC	1	0	0	2	2
iii	ASL-103	Engineering Chemistry Laboratory	Lab	BSC	1	0	0	2	2
iv	MEL-104	Engineering Graphics & Design	Lab	BSC	2	0	0	4	4
				Total	24	19	0	10	29
		Semester-II							
S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE		CREDIT S	L	T	P	HRS
1	ASB-201	Engineering Physics II	Theory	BSC	3	3	0	0	3
2	ASB-202	Engineering Mathematics II	Theory	BSC	3	3	0	0	3
3	ASB-203	Biology for Engineers	Theory	BSC	3	3	0	0	3
4	ECS-201	Basics of Electronics & Communication Engineering	Theory	ESC	3	3	0	0	3
5	MES-201	Basics of mechanical Engineering	Theory	ESC	3	3	0	0	3
6	CES-201	Basics of Civil Engineering	Theory	ESC	3	3	0	0	3
7	ASM-201	Constitution of India	Theory	MC-II (Audit)	0	2	0	0	2
i	ASL-201	Engineering Physics Laboratory II	Lab	BSC	1	0	0	2	2
ii	MEL-201	Workshop Practice	Lab	ESC	2	0	0	4	4
iii	MEL-202	Engineering Mechanics Laboratory	Lab	ESC	1	0	0	2	2
iv	CEL-201	Design Thinking & Idea Lab	Lab	ESC	1	0	0	2	2
				Total	23	20	0	10	30
		Semester-III							
S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE		CREDIT S	L	T	P	HRS
1	ASM-301	UHV	Theory	MC-III	3	3	0	0	3
2	ASM-302	Essence of Indian Traditional Knowledge	Theory	MC-IV	0	2	0	0	2
3	ASB-301	Engineering Mathematics III	Theory	BSC	3	3	0	0	3
4	CEC-301	Solid Mechanics	Theory	PCC	3	3	0	0	3

5	CEC-302	Fluid Mechanics	Theory	PCC	3	3	0	0	3
6	CEC-303	Engineering Materials & Concrete Technology	Theory	PCC	3	3	0	0	3
7	CEC-304	Geomatics	Theory	PCC	3	3	0	0	3
i	CEL-301	Solid Mechanics Lab	Lab	PCC	1	0	0	2	2
ii	CEL-302	Fluid Mechanics Lab	Lab	PCC	1	0	0	2	2
iii	CEL-303	Engineering Materials & Concrete Technology Lab	Lab	PCC	1	0	0	2	2
iv	CEL-304	Geomatics Engineering Lab	Lab	PCC	1	0	0	2	2
				Total	22	20	0	8	28
		Semester-IV							
S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE		CREDIT S	L	T	P	HRS
1	CEC-401	Structural Analysis I	Theory	PCC	3	3	0	0	3
2	CEC-402	Hydraulics	Theory	PCC	3	3	0	0	3
3	CEC-403	Building Construction and Quantity Surveying	Theory	PCC	3	3	0	0	3
4	AST-401	Operations Research	Theory	HSMC (OEC I)	3	3	0	0	3
5	AST-402	Economics	Theory	HSMC (OEC II)	3	3	0	0	3
i	CEL-401	Structural Analysis Lab	Lab	PCC	1	0	0	2	2
ii	CEL-402	Hydraulics Lab	Lab	PCC	1	0	0	2	2
iii	CEL-403	Civil Engineering Drawing & CAD Lab	Lab	PCC	1	0	0	2	2
iv	ASL-401	Numeric and Scientific Computing Lab.	Lab	ESC	2	0	0	4	4
				Total	20	15	0	10	25
		Semester-V							
S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE		CREDIT S	L	T	P	HRS
1	CEC-501	Soil Mechanics	Theory	PCC	3	3	0	0	3
2	CEC-502	Water Treatment & Supply	Theory	PCC	3	3	0	0	3
3	CEC-503	Design of RCC Structures	Theory	PCC	3	3	0	0	3
4	CEC-504	Structural Analysis II	Theory	PCC	3	3	0	0	3
5	CEC-505	Design of Steel Structures	Theory	PCC	3	3	0	0	3
6	CEE-50x	CEE-501 Open Channel Flow/ Other PEC through SWAYAM (one PEC to be opted by students)	Theory	PEC	3	3	0	0	3
i	CEL-501	Soil Mechanics Lab	Lab	PCC	1	0	0	2	2
ii	CEL-502	Water Treatment Lab	Lab	PCC	1	0	0	2	2
iii	CEL-503	RCC Design & Drawing Lab	Lab	PCC	1	0	0	2	2

iv	CEL-506	Surveying Camp	Lab	PCC	1	0	0	2	2
				Total	22	18	0	8	26
		Semester-VI							
S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE		CREDIT S	L	T	P	HRS
1	CEC-601	Engineering Economics & Construction Management	Theory	PCC	3	3	0	0	3
2	CEC-602	Wastewater collection and Treatment	Theory	PCC	3	3	0	0	3
3	CEC-603	Transportation Engineering	Theory	PCC	3	3	0	0	3
4	CEC-604	Engineering Hydrology	Theory	PCC	3	3	0	0	3
5	CEE-60x	CEE-601 Advanced Structural Design I / other PEC through SWAYAM (one PEC to be opted by students)	Theory	PEC	3	3	0	0	3
i	CEL-601	Construction Management Lab	Lab	PCC	1	0	0	2	2
ii	CEL-602	Wastewater Engineering Lab	Lab	PCC	1	0	0	2	2
iii	CEL-603	Transportation Engineering Lab	Lab	PCC	1	0	0	2	2
iv	CEL-605	Civil Engineering Software Lab	Lab	PCC	1	0	0	2	2
v	CEP-601	Seminar		PROJ	1	0	0	2	2
				Total	20	15	0	10	25
		Semester-VII							
S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE		CREDIT S	L	T	P	HRS
1	CEE-70x	CEE-701 Foundation Engineering / other PEC	Theory	PEC	3	3	0	0	3
2	CEE-70x	CEE-702 Advanced Structural Design II / other PEC	Theory	PEC	3	3	0	0	3
3	CEE-70x	CEE-703 Irrigation Engineering/ other PEC	Theory	PEC	3	3	0	0	3
4	CEE-70x	CEE-704 Advanced Transportation Engineering / other PEC/ CEE-705 Building Services/ other PEC	Theory	PEC	3	3	0	0	3
5	CEO-70x	CEO-701 Construction Project Management / CEO-702 Computational methods in civil engineering / Other OEC through SWAYAM (one OEC to be opted by students)	Theory	OEC	3	3	0	0	3
i	CEP-701	Summer Internship	Project-II	PROJ	2	0	0	4	4
ii	CEP-702	Project	Project-III	PROJ	3	0	0	6	6

				Total	20	15	0	10	25
		Semester-VIII							
S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE		CREDITS	L	T	P	HRS
1	CEO-80x	<i>CEO-801 Environmental Pollution Control / CEO-802 Water Resources Engineering/ CEO-803 Earthquake Resistant Design/ CEO-804 Advanced Geomatics/ Other OEC through SWAYAM (two OECs to be opted by students)</i>	Theory	OEC	3	3	0	0	3
2	CEO-80x		Theory	OEC	3	3	0	0	3
i	CEP-801	Project	Project-IV	PROJ	6	0	0	12	12
				Total	12	6	0	12	18
				Grand Total	163				

* In case of semester long project work done in industry or internship, the OECs in VIII semester may be offered in online mode.

**Program electives would be offered subject to availability of minimum number of students (12) and teaching faculty

COURSE CODE	DEFINITIONS
BSC	Basic Science Courses
ESC	Engineering Science Courses
HSMC	Humanities and Social Sciences including Management courses
PCC-CE	Professional core courses
PEC-CE	Professional Elective courses
OEC-CE	Open Elective courses
LC-CE	Laboratory course
MC	Mandatory courses
PROJ-CE	Project

Honors Degree - Environmental Engineering								
S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE	CREDITS	L	T	P	HRS
		IV Semester						
1	CEH-411	Ecology and Environment	Theory	3	3	0	0	3
		V Semester						
2	CEH-511	Transport of Water and Wastewater	Theory	3	3	0	0	3
		VI Semester						
3	CEH-611	Environmental Modeling	Theory	3	3	0	0	3
		VII Semester						
4	CEH-711	Safety and Health in Construction Industry	Theory	3	3	0	0	3
		VIII Semester						
5	CEH-811	Advanced Pollution Control Technologies	Theory	3	3	0	0	3
i	CEP-821	Honors Degree Project	Project	3	0	0	6	6
*One Project of 3 credits in lieu of 3 Labs			Total	18	15	0	6	21

Honors Degree - Structural Engineering

S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE	CREDITS	L	T	P	HRS
		IV Semester						
1	CEH-431	Sustainable Materials and Green Buildings	Theory	3	2	1	0	3
		V Semester						
2	CEH-531	Advanced Concrete Technology	Theory	3	2	1	0	3
		VI Semester						
3	CEH-631	Elementary Finite Element Analysis	Theory	3	2	1	0	3
		VII Semester						
4	CEH-731	Structural Dynamics	Theory	3	2	1	0	3
		VIII Semester						
5	CEH-831	Design of Bridges	Theory	3	2	1	0	3
i	CEP-821	Honors Degree Project	Project	3	0	0	6	6
	*One Project of 3 credits in lieu of 3 Labs		Total	18	10	5	6	21

Honors Degree - Water Resources Engineering

S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE	CREDITS	L	T	P	HRS
		IV Semester						
1	CEH-421	Pipeline Engineering	Theory	3	2	1	0	3
		V Semester						
2	CEH-521	Computational Hydraulics	Theory	3	2	1	0	3
		VI Semester						
3	CEH-621	Earth and Rock Fill Dams	Theory	3	2	1	0	3
		VII Semester						
4	CEH-721	Groundwater Hydrology	Theory	3	2	1	0	3
		VIII Semester						
5	CEH-821	River Engineering	Theory	3	2	1	0	3
i	CEP-821	Honors Degree Project	Project	3	0	0	6	6
	*One Project of 3 credits in lieu of 3 Labs		Total	18	10	5	6	21

Minor Degree - Civil Infrastructure

S. NO.	COURSE CODE	COURSE NAME	COURSE TYPE	CREDITS	L	T	P	HRS
		IV Semester						
1	CED-411	Environmental Engineering and Pollution Control	Theory	3	3	0	0	3
		V Semester						
2	CED-511	Building Construction and Concrete Technology	Theory	3	3	0	0	3
i	CEL-521	Concrete Technology Lab*	Lab	1	0	0	2	2
		VI Semester						
3	CED-611	Fundamentals of Surveying	Theory	3	3	0	0	3
ii	CEL-621	Fundamentals of Surveying Lab*	Lab	1	0	0	2	2
		VII Semester						
4	CED-711	Water Resources Management	Theory	3	3	0	0	3
iii	CEL-721	Water Resources Lab*	Lab	1	0	0	2	2
		VIII Semester						
5	CED-811	Geotechnical and Transportation Engineering	Theory	3	3	0	0	3
	*One Project of 3 credits in lieu of 3 Labs		Total	18	15	0	6	21