

Department of Civil Engineering

**B.Tech. Civil Engineering
Curriculum**

(Applicable to the students admitted from AY 2025 onwards)



**School of Engineering and Sciences
SRM University-AP, Andhra Pradesh**

ABBREVIATIONS	
AEC	Ability Enhancement Courses
VAC	Value Added Courses
SEC	Skill Enhancement Courses
FIC	Foundation & Interdisciplinary Courses
OE	Open Elective
RDIP	Research / Design / Industrial Practice / Project / Thesis / Internship
CE	Core Elective
CC	Core Course
SE	Stream Elective
TE	Technical Elective

SEMESTER - I							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	U AEC	Art of Listening, Speaking and Reading Skills	1	0	1	2
2	VAC	U VAC	Environmental Science	2	0	0	2
3	SEC	S SEC	Analytical Reasoning and Aptitude Skills	1	1	1	3
4	FIC	S FIC	Fundamentals of Chemistry for Engineers	2	0	1	3
5	FIC	S FIC	Calculus for Engineers	3	0	0	3
6	FIC	S FIC	Fundamentals of Computing and Programming in C	3	0	1	4
7	FIC	S FIC	Engineering Geology	1	0	1	2
Semester Total				13	1	5	19

Semester-II							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	AEC	Effective Writing and Presentation Skills	1	0	1	2
2	VAC	VAC	Universal Human Values and Ethics	2	0	0	2
3	SEC	S SEC	Fundamentals of Programming Language	1	1	1	3
4	FIC	S FIC	Principles of Economics and Management	3	0	0	3
5	FIC	S FIC	Linear Algebra and Differential Equations	3	0	0	3
6	Core	CC	Engineering Mechanics	3	0	0	3
7	Core	CC	Civil Engineering Drawing	0	1	2	3
Semester Total				13	2	4	19

Semester-III							
S.N .	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	S AEC	Problem-Solving Skills	1	0	1	2
2	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
3	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2*
4	SEC	D SEC	Computer Aided design and Drawing	2	0	1	3
5	Core	CC	Spatial Data Acquisition	2	1	1	4
6	Core	CC	Fluid Mechanics	2	1	1	4
7	Core	CC	Structural Mechanics	2	1	1	4
8	Core	CC	Civil Engineering Materials	1	1	1	3
9	OE	OE	Open Elective / Minor	3	0	0	3
			Semester Total	13	4	10	23

Semester-IV							
S.N.	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	S AEC	Creativity and Critical thinking Skills	1	0	1	2
2	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
3	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2*
4	SEC	D SEC	Non-Destructive Testing Methods for Concrete and Soil	1	0	2	3
5	Core	CC	Structural Analysis	2	1	1	4
6	Core	CC	Soil Behaviour and Engineering	2	1	1	4
7	Core	CC	Highway Engineering	2	1	1	4
8	Core	CC	Engineering Hydrology	3	0	1	4
9	OE	OE	Open Elective / Minor	3	0	0	3
10			Summer internship	0	0	4	4
			Semester Total	14	3	15	28

Semester-V							
S.N.	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
2	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2*
3	SEC	E SEC	Career Skills-I	2	0	1	3
4	Core	CC	Reinforced Concrete Design	3	0	1	4
5	Core	CC	Geotechnical Analysis and Design	2	1	1	4
6	Core	CC	Integrated Pollution Control Sustainable Engineering of Water and Air Systems	2	1	1	4
7	Core	CC	Remote Sensing and GIS	1	1	1	3
8	Core	CC	Railways, Airways, and Waterways Engineering	2	1	1	4
9	OE	OE	Open Elective / Minor	3	0	0	3
			Semester Total	15	4	10	25

Semester-VI							
S.N.	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	VAC	U VAC	Co-Curricular Activities	0	0	2	2
2	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2
3	SEC	E SEC	Career skill-II	2	0	1	3
4	Core	CC	Urban Waste Engineering Solid and Liquid Waste Management	2	1	1	4
5	Core	CC	Estimation & Costing	3	0	0	3
6	Core	CC	Design of Steel Structures	3	0	0	3
7	Elective	CE	Core Elective	2	0	1	3
8	Elective	CE	Core Elective	2	0	1	3
9	OE	OE	Open Elective / Minor	3	0	0	3
			Semester Total	17	1	8	26

Semester-VII							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE	Core Elective	2	0	1	3
2	Elective	CE	Core Elective	2	0	1	3
3	Elective	CE	Core Elective	2	0	1	3
4	OE	OE	Open Elective / Minor	3	0	0	3
5	RDIP	RDIP	UROP Project	0	0	4	4
			Semester Total	9	0	7	16

Semester-VIII							
S.N.	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	RDIP	RDIP	Major Project	0	0	12	12
			Total Credits				168

List of Core Electives							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE / SE	Industrial Effluent Treatment and Resource Recovery	3	0	0	3
2	Elective	CE / SE	Analysis and Design of Water Distribution Networks	3	0	0	3
3	Elective	CE / SE	Soil Dynamics & Machine Foundations	3	0	0	3
4	Elective	CE / SE	Construction Technology and Management	3	0	0	3
5	Elective	CE / SE	Construction Methods & Equipment's	3	0	0	3
6	Elective	CE / SE	Introduction to Structural Dynamics and Earthquake Engineering	3	0	0	3
7	Elective	CE / SE	Introduction to Computational Solid Mechanics	3	0	0	3
8	Elective	CE / SE	Prestressed and Precast Concrete Structures	3	0	0	3
9	Elective	CE / SE	Finite Element Methods	3	0	0	3
10	Elective	CE / SE	Building Information Modelling & Management	3	0	0	3
11	Elective	CE / SE	Advanced Structural Analysis	3	0	0	3
12	Elective	CE / SE	Design of Hydraulic Structure and Irrigation System	3	0	0	3
13	Elective	CE / SE	Introduction to Drone Technology and Applications	3	0	0	3
14	Elective	CE / SE	Advanced Pavement Design and Maintenance	3	0	0	3
15	Elective	CE / SE	Sustainable Pavement Materials and Construction	3	0	0	3

Specialization Courses							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Core Elective	CE	Introduction to Structural Dynamics and Earthquake Engineering	3	0	0	3
2	Core Elective	CE	Introduction to Computational Solid Mechanics	3	0	0	3
3	Core Elective	CE	Prestressed and Precast Concrete Structures	3	0	0	3
4	Core Elective	CE	Finite Element Methods	3	0	0	3
5	Core Elective	CE	Building Information Modelling and Management	3	0	0	3
6	Core Elective	CE	Advanced Structural Analysis	3	0	0	3

List of Open Electives							
Open Elective							
S.No.	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	OE	OE	Water Resources for Smart and Livable Cities	3	0	0	3
2	OE	OE	Remote Sensing and GIS applications in Engineering	2	0	1	3
3	OE	OE	Drones for Asset Management	3	0	0	3
4	OE	OE	Heritage Structures & Conservation Strategies	3	0	0	3
5	OE	OE	Availability and Management of Groundwater Resources	3	0	0	3
6	OE	OE	Introduction to Reliability Engineering	3	0	0	3
7	OE	OE	Basics of Drone Technology	3	0	0	3

S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	OE	OE	Basics of Drone Technology	3	0	0	3
2	OE	OE	Drones for Asset Management	3	0	0	3
3	OE	OE	Remote Sensing and GIS applications in Engineering	2	0	1	3
4	OE	OE	Autonomous UAV Systems: Perception, Mapping, and AI Integration	3	0	0	3