

Department of Civil Engineering

B.Tech. Civil Engineering Curriculum

(Applicable to the students admitted during AY: 2024)



**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	Emerging Technologies	2	0	0	2
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	Fundamentals of Chemistry for Engineers	2	0	1	3
Semester Total				14	1	4	19

SEMESTER – II							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	U AEC	Effective Writing and Presentation Skills	1	0	1	2
2	VAC	U VAC	Universal Human Values and Ethics	2	0	0	2
3	SEC	S SEC	Entrepreneurial Mindset	2	0	0	2
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	Structural Mechanics	2	1	1	4
7	Core	CC	Fluid Mechanics	2	1	1	4
Semester Total				15	2	3	20

SEMESTER - III							
S. No	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	Data Structures	2	0	1	3
5	Core	CC	Spatial Data Acquisition	2	1	1	4
6	Core	CC	Probability and Statistics	3	0	0	3
7	Core	CC	Civil Engineering Materials	2	0	1	3
8	Core	CC	Analysis of Determinate and Indeterminate Structures	2	1	1	4
9	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				15	2	5	22

SEMESTER – IV							
S. No	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	S SEC	Numerical Methods and its Application in Civil Engineering	1	1	1	3
5	Core	CC	Reinforced Concrete Design	3	0	1	4
6	Core	CC	Soil Behaviour and Engineering	2	1	1	4
7	Core	CC	Modern Highway Engineering	2	1	1	4
8	Core	CC	Engineering Hydrology	1	1	1	3
9	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				13	4	6	23

SEMESTER – V							
S. No	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	Core	CC	Computer Aided Drawing and Estimation	1	1	1	3
4	SEC	E SEC	Career Skills - I	3	0	0	3
5	Core	CC	Geotechnical Analysis and Design	2	1	1	4
6	Core	CC	Physico-chemical Water Treatment: Materials and Processes	2	1	1	4
7	Core	CC	Remote Sensing and GIS	1	1	1	3
8	Core	CC	High-Speed Railways, Airways, and Waterways Engineering	2	1	1	4
9	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				14	5	5	24

SEMESTER – VI							
S. No	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 - II	3	0	0	3
4	Core	CC	Wastewater, Treatment: Disposal to Resource Recovery	2	0	1	3
5	Core	CC	Building Information Modelling and Management	2	0	2	4
6	Core	CC	Design of Steel Structures	3	0	1	4
7	Elective	CE	Core Elective	2	0	1	3
8	Elective	CE	Core Elective	2	0	1	3
9	Elective	OE	Open Elective	3	0	0	3
Semester Total				17	0	10	27

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	Elective	OE	Open Elective / Minor	3	0	0	3
5	RDIP	RDIP	Summer Internship	0	0	4	4
Semester Total				12	0	7	19

SEMESTER – VIII							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	RDIP	RDIP	Major Project	0	0	12	12
Semester Total				0	0	12	12

Core Electives							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE	Environmental Geotechnics	3	0	0	3
2	Elective	CE	Introduction to Structural Dynamics	3	0	0	3
3	Elective	CE	Introduction to Computational Solid Mechanics	3	0	0	3
4	Elective	CE	Introduction to Drone Technology and Applications	2	1	0	3
5	Elective	CE	Design of Hydraulic Structure and Irrigation System	2	0	1	3
6	Elective	CE	Water resource planning and management	2	0	1	3
7	Elective	CE	Advanced Pavement Design and Maintenance	2	0	1	3
8	Elective	CE	Sustainable Waste Management Systems	3	0	0	3
9	Elective	CE	Air Quality in Changing Environments	3	0	0	3
10	Elective	CE	Finite Element Method for Structural Engineers	2	0	1	3
11	Elective	CE	Designing with Geosynthetics	3	0	0	3
12	Elective	CE	Sustainable Pavement Materials and Construction	2	0	1	3

Open Electives							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	OE	Building Information Modelling	3	0	0	3
2	Elective	OE	Highway Engineering and Management	3	0	0	3
3	Elective	OE	Principles and Practice in Infrastructure and Environment	3	0	0	3
4	Elective	OE	Water Resources for Smart and Livable Cities	3	0	0	3
5	Elective	OE	Construction Methods and Equipment	3	0	0	3
6	Elective	OE	Socio-economic Sustainable Developments	3	0	0	3
7	Elective	OE	Remote Sensing and GIS applications in Engineering	3	0	0	3
8	Elective	OE	Drones for Asset Management	3	0	0	3
9	Elective	OE	Civil Engineering Profession-Developing Nations	3	0	0	3
10	Elective	OE	Heritage Structures & Conservation Strategies	3	0	0	3
11	Elective	OE	Availability and Management of Groundwater Resources	3	0	0	3
12	Elective	OE	Introduction to Reliability Engineering	3	0	0	3
13	Elective	OE	Optimization methods for Civil Engineering	3	0	0	3
14	Elective	OE	Introduction to Civil Engineering Profession	3	0	0	3

Career Skills							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	SEC	D SEC	Non-Destructive Testing Methods for Concrete and Soil	3	0	0	3