

SRI VENKATESWARA COLLEGE OF ENGINEERING

Karakambadi Road, TIRUPATI – 517507

Civil Engineering

Semester - 1 (Theory - 5, Lab - 4, MC - 1)

S.No	Course No	Course Name	Category	L-T-P/D	Credits
1	MA20ABS101	Linear Algebra and Calculus	BS	3-0-0	3
2	PH20ABS101	Engineering Physics	BS	3-0-0	3
3	EG20AHS101	Communicative English	HS	3-0-0	3
4	EE20AES101	Basic Electrical & Electronics Engineering	ES	3-0-0	3
5	ME20AES102	Engineering Drawing	ES	1-0-0/2	2
6	ME20AES103	Engineering Graphics Lab	ES	0-0-2	1
7	PH20ABS102	Engineering Physics Lab	BS	0-0-3	1.5
8	EG20AHS102	Communicative English Lab	HS	0-0-3	1.5
9	EE20AES102	Basic Electrical & Electronics Engineering Lab	ES	0-0-3	1.5
10	MA20AMC101	Logical Skills for Professionals-I	MC	2-0-0	0.0
Total					19.5

Semester - 2 (Theory - 4, Lab - 5, MC - 2)

S.No	Course No	Course Name	Category	L-T-P	Credits
1	MA20ABS201	Differential Equations and Vector Calculus	BS	3-0-0	3
2	CH20ABS101	Engineering Chemistry	BS	3-0-0	3
3	CS20AES101	Problem Solving using C	ES	3-0-0	3
4	CE20AES201	Strength of Materials	ES	3-0-0	3
5	ME20AES101	Engineering Workshop	ES	0-0-3	1.5
6	CS20AES103	IT Workshop	ES	0-0-3	1.5
7	CS20AES102	Problem Solving using C Lab	ES	0-0-3	1.5
8	CH20ABS102	Engineering Chemistry Lab	BS	0-0-3	1.5
9	CE20AES202	Strength of Materials Lab	ES	0-0-3	1.5
10	CH20AMC201	Environmental Science	MC	2-0-0	0.0
11	EG20AMC101	Speech & Oral Communication	MC	2-0-0	0.0
Total					19.5

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Civil Engineering

Semester – 3 (Theory - 5, Lab – 3, SOC – 1, MC – 2)

S.No	Course No	Course Name	Category	L-T-P/D	Credits
1	MA20ABS301	Complex Variables, Transforms & Applications to Partial Differential Equations	BS	3-0-0	3
2	CE20APC301	Structural Analysis-I	PC	3-1-0	3
3	CE20APC302	Building Materials and Concrete Technology	PC	3-0-0	3
4	CE20APC303	Fluid Mechanics and Hydraulic Machines	PC	3-1-0	3
5	CE20APC304	Surveying	PC	3-0-0	3
6	CE20APC305	Basic Civil Engineering Lab	PC	0-0-3	1.5
7	CE20APC306	Surveying Lab	PC	0-0-3	1.5
8	CE20APC307	Fluid Mechanics and Hydraulic Machines Lab	PC	0-0-3	1.5
9	CS20ASC301	Skill oriented course Real-Time Application of Data Structures	SC	1-0-2	2
10	CH20AMC301	Biology for Engineers	MC	2-0-0	0.0
11	MA20AMC301	Logical Skills for Professionals-II	MC	2-0-0	0.0
12	EG20AMC301	Enhancing English Language Skills (Lateral Entry Students only)	MC	2-0-0	0.0
Total					21.5

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Semester – 4 (Theory – 6, Lab – 3, SOC – 1, MC – 1, AC – 1)

S.No	Course No	Course Name	Category	L-T-P/D	Credits
1	CE20AES401	Soil Mechanics	ES	3-1-0	3
2	MA20ABS401	Numerical Methods, Probability and Statistics	BS	3-0-0	3
3	CE20APC401	Structural Analysis-II	PC	3-0-0	3
4	CE20APC402	Environmental Engineering	PC	3-0-0	3
5	BA20AHS301	Humanities Elective – I Managerial Economics & Financial Analysis	HS	3-0-0	3
	BA20AHS302	Business Environment			
	BA20AHS303	Organizational Behavior			
6	CE20AES402	Soil Mechanics Lab	ES	0-0-3	1.5
7	CE20APC403	Geology Lab	PC	0-1-2	1.5
8	CE20APC404	Material Testing Lab	PC	0-0-3	1.5
9	EG20ASC301	Skill oriented course Soft Skills	SC	1-0-2	2
10	SH20AAC401	NSS/YOGA/Cultural Activities/Sports	AC	2-0-0	0
11	BA20AMC201	Mandatory course (AICTE Suggested): Universal Human Values	MC	2-0-0	0
12	*BA20AHS201	Universal Human Values	HS	3-0-0	*3
13	MA20AMC401	Engineering Mathematics (Lateral Entry Students only)	MC	2-0-0	0
Total					24.5
14	Industry/ Research Internship minimum of 4 weeks (Mandatory during summer vacations)				
15	Honor or Minor courses (hours distribution can be 3-0-2 or 3-1-0 also)			4-0-0	4

*UHV is considered as credit based course from 2021 batch

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Semester – 5 (Theory - 5, Lab – 2, SAC – 1, MC – 1)

S.No	Course No	Course Name	Category	L-T-P/D	Credits
1	CE20APC501	Design of Reinforced Concrete Structures	PC	3-0-0	3
2	CE20APC502	Highway Engineering	PC	3-0-0	3
3	CE20APC503	Foundation Engineering	PC	3-0-0	3
4	ME20AOE502 EE20AOE503 AM20AOE501 CS20AOE503 EC20AOE502	Open Elective / Job Oriented Elective-I 1. Solar & Wind Energy Systems 2. Renewable Energy Resources 3. Introduction to Operating Systems 4. Structured Query Language 5. Digital Electronics	OE	3-0-0	3
5	CE20APE501 CE20APE502 CE20APE503 CE20APE504	Professional Elective courses-I 1. Advanced Structural Analysis 2. Cost Effective Housing Techniques 3. Solid and Hazardous Waste Management 4. Water Harvesting and Conservation	PE	3-0-0	3
6	CE20APC504	Environmental Engineering Lab	PC	0-0-3	1.5
7	CE20APC505	Advanced Soil Mechanics Lab	PC	0-0-3	1.5
8	CE20ASC501	Skill Advanced course/ Soft Skill Course: Elements of Building, Planning and Drawing	SC	1-0-2	2.0
9	BA20AMC501	Mandatory course (AICTE Suggested): Constitution of India	MC	2-0-0	0
10	IT20AMC501	Problem Solving and Programming (Lateral Entry Students only)	MC	2-0-0	0
11	CE20ATS501	Technical Seminar Presentation-I	TS	0-0-0	0.5
12	CE20AIP501	Evaluation of summer Internship (4 weeks)	IP	0-0-0	1.5
Total					22
13	Honor or Minor courses (hours distribution can be 3-0-2 or 3-1-0 also)			4-0-0	4
14	MOOC / NPTEL Course				2

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Civil Engineering

Semester – 6 (Theory - 5, Lab – 3, SAC – 1, MC – 1)

S.No	Course No	Course Name	Category	L-T-P/D	Credits
1	CE20APC601	Design of Steel Structures	PC	3-0-0	3
2	CE20APC602	Water Resources Engineering	PC	3-0-0	3
3	CE20APC603	Estimation Costing and Valuation	PC	3-0-0	3
4	CE20APE601 CE20APE602 CE20APE603 CE20APE604	Professional Elective Courses - II 1. Railways, Airport and Harbor Engineering 2. Advanced RCC Design 3. Advanced Foundation Engineering 4. Rural Water Supply and Sanitation	PE	3-0-0	3
5	ME20AOE602 EE20AOE602 CS20AOE501 AM20AOE502 EC20AOE602	Open Elective/Job Oriented Elective - II 1. Power Generation Technologies 2. Energy Auditing & Conservation 3. Computer Applications using Programming Tools 4. Web Technologies 5. Signal Processing	OE	3-0-0	3
6	CE20APC604	Advanced Surveying Lab	PC	0-0-3	1.5
7	CE20APC605	Transportation Engineering Lab	PC	0-0-3	1.5
8	CE20APC606	Building Drawing Using Auto CAD	PC	0-0-3	1.5
9	IT20ASC301	Skill Advanced course/ Soft Skill Course: Application Development Using Python	SC	1-0-2	2.0
10	BA20AMC502	Mandatory course (AICTE Suggested): Intellectual Property Rights and Patents	MC	2-0-0	0
11	CE20ATS601	Technical Seminar Presentation-II	TS	0-0-0	0.5
12	AM20AMC601	AI Tools Techniques and Applications (Lateral Entry Students only)	MC	2-0-0	0
13	Industrial / Research mini Project (Mandatory) 4 weeks during summer vacation				
				Total	22
14	Honors/Minor courses (hours distribution can be 3-0-2 or 3-1-0 also)			4-0-0	4
15	MOOC / NPTEL Course				2

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Semester – 7 (Theory – 6, SAC - 1)

S.No	Course No	Course Name	Category	L-T-P/D	Credits
1	CE20APE701 CE20APE702 CE20APE703 CE20APE704	Professional Elective Course - III 1. Rehabilitation and Retrofitting of Structures 2. Advanced Water Resources Engineering 3. Air Pollution and Control 4. Transportation Safety Systems	PE	3-0-0	3
2	CE20APE705 CE20APE706 CE20APE707 CE20APE708	Professional Elective Course - IV 1. Finite Element Methods in Civil Engineering 2. Disaster Management & Mitigation 3. Environmental Impact Assessment 4. Building Services & Maintenance	PE	3-0-0	3
3	CE20APE709 CE20APE710 CE20APE711 CE20APE712	Professional Elective Course - V 1. Construction Planning and Management 2. Ground Improvement Techniques 3. Traffic Engineering & Management 4. Interior Designs & Decorations	PE	3-0-0	3
4	ME20AOE701 EE20AOE704 AM20AOE701 CS20AOE701 EC20AOE702	Open Elective/Job Oriented Elective - III 1. Composite Materials and its Applications 2. Introduction to Smart Grid & Electric Vehicles 3. Cyber Security Techniques 4. Mobile Application Development using Android 5. Principles of Communication Engineering	OE	3-0-0	3
5	ME20AOE704 EE20AOE705 CS20AOE601 AM20AOE601 EC20AOE703	Open Elective - IV / Job Oriented Elective 1. Introduction to Product Marketing 2. Utilization of Energy & Electrical Utilities 3. Data Analysis using R 4. Machine Learning Tools & Techniques 5. Sensors & Systems	OE	3-0-0	3
6	BA20AHS701 BA20AHS705 BA20AHS706	Humanities Elective-II 1. Business Ethics & Corporate Governance 2. Management Science 3. Strategic Management	HS	3-0-0	3
7	CE20ASC701	Skill Advanced course/ Soft Skill Course: Computer Aided Design of Structures	SC	1-0-2	2
8	CE20ATS701	Technical Seminar Presentation -III	TS	0-0-0	0.5
9	CE20APW701	Project Work Stage –I	PW	0-0-0	2
10	CE20AIP701	Evaluation of Industrial/Research Mini Project (Mandatory) 4 weeks during summer vacation	IP	0-0-0	3
				Total	25.5
Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)				4-0-0	4

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Semester – 8

S.No	Course No	Course Name	Category	L-T-P/D	Credits
1	CE20APW801	Project Work Stage- II / Full Internship in Industry	PW	0-0-0	8.5
				Total	8.5

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Civil Engineering

Open Elective/ Job Oriented Elective:

(Offered by Civil Engineering Department to other Department students)

Course No	Course Name	Category	L-T-P/D	Credits
Semester – 5				
CE20AOE501 CE20AOE502 CE20AOE503	Open Elective/ Job Oriented Elective: (Offered by Civil Engineering Department to other Department students) 1. Basics of Civil Engineering 2. Principles of Waste Management 3. Water Harvesting and Management	OE/JOE	3-0-0	3
Semester – 6				
CE20AOE601 CE20AOE602 CE20AOE603	Open Elective/ Job Oriented Elective: (Offered by Civil Engineering Department to other Department students) 1. Disaster Management 2. Rural water supply and sanitary Engineering 3. Water Resources Planning & Management	OE/JOE	3-0-0	3
Semester – 7				
CE20AOE701 CE20AOE702 CE20AOE703	Open Elective/ Job Oriented Elective: (Offered by Civil Engineering Department to other Department students) 1. Air Pollution and Quality Control 2. Building Maintenance & Services 3. House Interior Designs & Decorations	OE/JOE	3-0-0	3
CE20AOE704 CE20AOE705 CE20AOE706	Open Elective/ Job Oriented Elective: (Offered by Civil Engineering Department to other Department students) 1. Environmental Impact Analysis & Management 2. Low Cost Housing Techniques 3. Road Traffic Safety	OE/JOE	3-0-0	3

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Civil Engineering

MINOR DEGREE IN CIVIL ENGINEERING

Course No	Course Title	L-T-P/D	Credits
CE20AES201	Strength of Materials	3-0-0	3
CE20APC302	Building Material and Concrete Technology	3-0-0	3
CE20APC402	Environmental Engineering	3-0-0	3
CE20APC602	Water Resources Engineering	3-0-0	3
	MOOC/NPTEL Course		2
	MOOC/NPTEL Course		2
CE20AMD701	Minor Discipline Project	----	4
Total			20.0

COURSE FOR HONOURS DEGREE

Advanced Courses for B.Tech Degree with Honors in Civil Engineering

Course No	Course Title	L-T-P/D	Credits
CE20AHO401	Prefabricated Structures	4-0-0	4
CE20AHO501	Foundations on Expansive Soil	4-0-0	4
CE20AHO601	Urban Transportation Planning	4-0-0	4
CE20AHO701	Water shed Management	4-0-0	4
	MOOC/NPTEL Course		2
	MOOC/NPTEL Course		2
Total			20.0