



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF CIVIL ENGINEERING

COURSE STRUCTURE AND SYLLABUS

For UG – R20

B. TECH - CIVIL ENGINEERING

(Applicable for batches admitted from 2020-2021)



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COURSE STRUCTURE

I Year – I SEMESTER

S. No	CourseCode	Subjects	L	T	P	Credits
1	BSC1101	Mathematics – I (Calculus & Differential Equations)	3	0	0	3
2	HSMC1101	Communicative English	3	0	0	3
3	BSC1102	Engineering Physics	3	0	0	3
4	ESC1101	Engineering Drawing	1	0	4	3
5	ESC1102	Engineering Geology (Integrated) (Theory & Lab)	2	0	2	3
6	HSMC1102	English Communication Skills Laboratory	0	0	3	1.5
7	BSC1103	Engineering Physics Lab	0	0	3	1.5
8	ESC1103	Basics of Civil Engg. Work Shop (Lab)	0	0	3	1.5
Total Credits			19.5			

I Year – II SEMESTER

S. No	Course Code	Subjects	L	T	P	Credits
1	BSC1201	Mathematics – II (Linear Algebra & Numerical Methods)	3	0	0	3
2	BSC1202	Engineering Chemistry	3	0	0	3
3	ESC1201	Engineering Mechanics	3	0	0	3
4	ESC1202	Programming for Problem Solving Using C	3	0	0	3
5	ESC1203	Building Materials and Concrete Technology	3	0	0	3
6	BSC1203	Engineering Chemistry Lab	0	0	3	1.5
7	ESC1204	Programming for problem Solving Using C Lab	0	0	3	1.5
8	ESC1205	Building Planning and Computer Aided Building Drawing	0	0	3	1.5
9	MC1201	Environmental Science (M. C)	2	0	0	0
Total Credits			19.5			

***Breakup of credits for Engineering Graphics/Engineering Workshop shall be 1-0-4 (as per AICTE model curriculum)**

Universities/Institutions may swap a few courses between 1st and 2nd semesters to balance the workload of teaching and laboratory schedule.



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II Year – I SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	BSC301	Mathematics -III (Vector Calculus, Transforms and PDE)	3	0	0	3
2	PCC301	Strength of Materials - I	3	0	0	3
3	PCC302	Fluid Mechanics	3	0	0	3
4	PCC302	Surveying and Geometrics	3	0	0	3
5	PCC303	Highway Engineering	3	0	0	3
6	PCC304	Concrete Technology Lab	0	0	3	1.5
7	PCC305	Highway Engineering Lab	0	0	3	1.5
8	PCC306	Surveying Field Work – I (Lab)	0	0	3	1.5
9	SC301	Skill oriented course*	1	0	2	2
10	MC301	Constitution of India	2	0	0	0
		Total Credits				21.5

II YEAR – II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	PC401	Complex Variables and Statistical Methods	3	0	0	3
2	PC402	Strength of Materials -II	3	0	0	3
3	ES401	Hydraulics and Hydraulic Machinery	3	0	0	3
4	PC403	Environmental Engineering	3	0	0	3
5	PC404	Managerial Economics & Financial Analysis	3	0	0	3
6	PC405	Environmental Engineering Lab	0	0	3	1.5
7	PC406	Strength of Material Lab	0	0	3	1.5
8	PC407	Fluid Mechanics & Hydraulics Machinery Lab	0	0	3	1.5
9	SC401	Skill oriented course*	1	0	2	2
		Total Credits				21.5
Honors/ Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)			3	1	0	4



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III YEAR – I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	PC501	Professional Core courses (STRUCTURAL ANALYSIS)	3	0	0	3
2	PC502	Professional Core courses (DESIGN AND DRAWING OF REINFORCED CONCRETE STRUCTURES)	3	0	0	3
3	PC503	Professional Core courses (GEOTECHNICAL ENGINEERING-1)	3	0	0	3
4	OE501	Open Elective Course/Job Oriented elective (OE-1)	3	0	0	3
5	PE501	Professional Elective courses	3	0	0	3
6	PC504	Professional Core courses Lab Survey Camp (Field work)	0	0	3	1.5
7	PC505	Professional Core courses Lab (GEOTECHNICAL ENGINEERING LAB)	0	0	3	1.5
8	PC501	Skill advanced course/ soft skill course* Design of Special Structure, Chimney, Hinge Tanks designs, spill ways etc.,	1	0	2	2
9	MC501	Mandatory Course (AICTE Suggested) Professional Ethics and Human Values	2	0	0	0
10	PR501	Summer Internship 2Months (Mandatory) after second year (to be evaluated during V semester)	0	0	3	1.5
		Total Credits				21.5
Honors/ Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)			3	1	0	4



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III YEAR – II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	PC601	Professional Core courses (DESIGN AND DRAWING OF STEEL STRUCTURES)	3	0	0	3
2	PC602	Professional Core courses (WATER RESOURCE ENGINEERING)	3	0	0	3
3	PC603	Professional Core courses (GEOTECHNICAL ENGINEERING-II)	3	0	0	3
4	PE601	Professional Elective courses	3	0	0	3
5	OE601	Open Elective Course/Job oriented elective (OE-2)	3	0	0	3
6	PC604	Professional Core courses Lab (ESTIMATION, COSTING AND CONTRACTS)	0	0	3	1.5
7	PC605	Professional Core courses Lab (REMOTE SENSING & GIS LAB)	0	0	3	1.5
8	PC606	Professional Core courses Lab CIVIL ENGINEERING PRACTICE	0	0	3	1.5
9	SC601	Skill advanced course/ soft skill course* Computational Tools	1	0	2	2
10	MC601	Mandatory course (AICTE) (EMPLOYABILITY SKILLS)	2	0	0	0
11	PR601	Industrial/Research Internship (Mandatory) 2 Months	0	0	3	1.5
		Total Credits				23
		Honors/ Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)	3	1	0	4



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IV YEAR – I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	PE701	Professional Elective -III	3	0	0	3
2	PE702	Professional Elective -IV	3	0	0	3
3	PE703	Professional Elective -V	3	0	0	3
4	OE701	Open Elective Courses/ Job oriented elective (OE-III)	2	0	2	3
5	OE702	Open Elective Course/Job oriented elective (OE-IV)	2	0	2	3
6	HSC701	*Humanities and Social Science Elective	3	0	0	3
7	SC701	Skill advanced course/ soft skill course* Project planning, town planning,	1	0	2	2
8	PR701	Industrial/Research Internship 2 Months (Mandatory) after third year (to be evaluated during VII semester)	0	0	3	1.5
		Total Credits				21.5
Honors/ Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)			3	1	0	4

*There is a provision for the Universities/Institutions to implement AICTE mandatory course “Universal Human Values 2: Understanding Harmony” under Humanities and social science Elective in seventh semester for 3 credits.

IV YEAR – II SEMESTER

S.NO	CATEGORY	COURSE TITLE	L	T	P/D	C
1	Major Project	PROJ	-	-	-	12
		INTERNSHIP (6 Months)				
		Total Credits				12