



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA**  
**KAKINADA – 533 003, Andhra Pradesh, India**

**DEPARTMENT OF CIVIL ENGINEERING**

**COURSE STRUCTURE & SYLLABUS**  
**M.Tech (Structural Engineering) Programme**  
*(Applicable for batches admitted from 2019-2020)*



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA****KAKINADA – 533 003, Andhra Pradesh, India****I - Semester**

S.No	Course Name	Category	L	T	P	C	Marks
1	Theory of Elasticity	Core	3	0	--	3	100
2	Structural Dynamics	Core	3	0	--	3	100
3	<b>Elective I</b>	Elective	3	0	--	3	100
	a) Matrix Analysis of Structures						
	b) Analytical & Numerical Methods for Structural Engineering						
	c) Design of RCC Foundations						
4	<b>Program Elective II</b>	Elective	3	0	--	3	100
	a) Bridge Engineering						
	b) Repair and Rehabilitation of Structures						
	c) Advanced Reinforced Concrete Design						
5	Advanced Concrete Technology		2	0	0	2	100
6	Advanced Concrete Technology Laboratory	Lab	-	--	4	2	100
7	Advanced Structural Engineering Laboratory	Lab	-	--	4	2	100
8	<b>Audit Course -1</b>	Audit	2	0	0	0	100
<b>Total Credits /Marks</b>						<b>18</b>	<b>800</b>

**II – Semester**

S.No.	Course Name	Category	L	T	P	C	Marks
1	Finite Element Methods in Structural Engineering	Core	3	0	--	3	100
2	Theory of Plates and Shells	Core	3	0	--	3	100
3	<b>Elective III</b>	Elective	3	0	--	3	100
	a) Stability of Structures						
	b) Advanced Steel Design						
	c) Analysis of Offshore Structures						
4	<b>Elective IV</b>	Elective	3	0	--	3	100
	a) Earthquake Resistant Design of Buildings						
	b) Precast and Prefabricated Structures						
	c) Earth Retaining Structures						
5	Computer Aided Design Laboratory		--	--	4	2	100
6	Structural Design laboratory	Lab	--	--	4	2	100
7	Mini Project With Seminar		0	0	4	2	100
8	<b>Audit Course -2</b>	Audit	2	0	0	0	100
<b>Total Credits / Marks</b>						<b>18</b>	<b>800</b>



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**III – Semester**

S.No.	Course Name	Category	L	T	P	C	Marks
1	Elective 5: Program Elective /MOOCS**	Elective	3	0	--	3	100
	a) Design of Prestressed Concrete structures						
	b) Structural Health Monitoring						
	c) Industrial Structures						
2	Open Elective / MOOCS**	Elective	3	0	--	3	100
	a) Artificial Intelligence Technique						
	b) Construction Management						
	c) Green Technology						
3	Dissertation Phase-I / Industrial Project (To be continued and Evaluated next Semester)*		--	--	20	10	
<b>Total Credits / Marks</b>						<b>16</b>	<b>200</b>

\* Evaluated and displayed in 4<sup>th</sup> Semester marks list

\*\* Students Going for Industrial Project / Thesis will complete these courses through MOOCS. Students can also choose SWAYAM or NPTEL with a 12 weeks' course duration in PG level with 3 credits, but the chosen subject should not be covered in their M. Tech Course

**IV - Semester**

SI No.	Course Name	Category	L	T	P	C	Marks
1	Project / Dissertation Phase II (Continued from III Semester)		0	0	32	16	100
<b>Total Credits / Marks</b>						<b>16</b>	<b>100</b>

**Audit course 1 & 2**

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technical Knowledge
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development through Life Enlightenment Skills.