

**MINORS DEGREE OFFERED BY CIVIL ENGINEERING****<Construction Technology >**

S.No.	Course Code	Course Title	Contact Hours per week			Credits
			L	T	P	
1.		Building Materials & Construction	3	1	0	4
2.		Building Planning and Drawing	3	1	0	4
3.		Estimation , Costing and Valuation	3	1	0	4
4.		Surveying	3	1	0	4
5.		Concrete Technology <a href="#">NPTEL</a>				2
6.		Green Buildings <a href="https://nptel.ac.in/courses/105102195">https://nptel.ac.in/courses/105102195</a>				2

\*-MOOC must be 12 week duration in SWAYAM/NPTEL

**MINORS DEGREE OFFERED BY EEE****<Minors in Energy Systems>**

S.No.	Course Code	Course Title	Contact Hours per week			Credits
			L	T	P	
1.		Energy Audit and Management	3	1	0	4
2.		Energy Management in Building	3	1	0	4
3.		Energy Conversion Systems	3	1	0	4
4.		Energy Scenario and Energy Policy	3	1	0	4
5.		Energy Resources & Technology / Available Courses under SWAYAM MOOC I*	--	--	--	2
6.		Waste to Energy Conversion/ Available Courses under SWAYAM MOOC II*	--	--	--	2

\*-MOOC must be 12 week duration in SWAYAM/NPTEL

**JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTAPUR  
COURSES OFFERED FOR MINOR DEGREE IN THE STREAM OF  
MECHANICAL ENGINEERING -3D PRINTING  
(Offered to other Engineering Branches R20)**

**MINOR DEGREE OFFERED BY MECHANICAL ENGINEERING**

**3D PRINTING**

S.No.	Code	Course Name	Contact Hours per week			Credits
			L	T	P	
1		Material Science for Engineering	3	1	0	4
2		Computer Aided Machine Drawing	3	1	0	4
3		3D Printing Materials	3	1	0	4
4		Applications of 3D Printing	3	1	0	4
5		MOOC I: Metal Additive Manufacturing <a href="https://onlinecourses.nptel.ac.in/noc22_me130/preview">https://onlinecourses.nptel.ac.in/noc22_me130/preview</a>				2
6		MOOC II: Introduction to Composites <a href="https://nptel.ac.in/courses/112104168">https://nptel.ac.in/courses/112104168</a>				2

\*-MOOC must be 12 week duration in SWAYAM/NPTEL

**MINOR DEGREE OFFERED BY ECE DEPARTMENT**

**INTERNET OF THINGS**

S.No.	Course Code	Course Title	Contact Hours per week			Credits
			L	T	P	
1.		Introduction to Internet of Things	3	1	0	4
2.		IoT with Arduino, ESP, and Raspberry Pi	3	1	0	4
3.		Communication Protocols for IoT	3	1	0	4
4.		Industrial IoT	3	1	0	4
5.		*MOOC I: Data Analytics related courses	-	-	-	2
6.		*MOOC II: Machine Learning related courses	-	-	-	2

\*-MOOC must be 12 week duration in SWAYAM/NPTEL

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY  
ANANTAPUR  
COLLEGE OF ENGINEERING (Autonomous):: ANANTHAPURAMU  
DEPARTMENT COMPUTER SCIENCE AND ENGINEERING  
B.Tech. Course Structure (R20)

Minor Degree

S.No.	Course Code	Course Title	Contact Hours per week			Credits
			L	T	P	
1.		Introduction to Data Science	3	1	0	4
2.		Introduction to AI & ML	3	1	0	4
3.		Data Analytics with R	3	1	0	4
4.		Software Project Management	3	1	0	4
5.		MOOC I* DAA				2
6.		MOOC II* Deep Learning				2

\*-MOOC must be 12 week duration in SWAYAM/NPTEL

**MINOR DEGREE OFFERED BY Chemical Engineering**

**Stream 1: Green Technology & Sustainable Engineering**

S.No.	Course Code	Course Title	Contact Hours per week			Credits
			L	T	P	
1.		Solar Energy Engineering	3	1	0	4
2.		Renewable Energy Systems	3	1	0	4
3.		Energy Conversion	3	1	0	4
4.		Technology Economics	3	1	0	4
5.		MOOC I* 1. Challenges to Sustainable Development	--	--		2
6.		MOOC II* 1. Sustainable Management of Biodiversity	--	--		2

\*-MOOC must be 12 week duration in SWAYAM/NPTEL