



Jawaharlal Nehru Technological University Anantapur

(Established by Govt. of A.P., Act. No. 30 of 2008)

Ananthapuramu–515 002 (A.P) India

Four Year B.Tech. Course Structure and Syllabi under R20 Regulations



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
 (Established by Govt. of A.P., ACT No.30 of 2008)
 ANANTAPUR – 515 002 (A.P) INDIA

Semester-0

Induction Program: 3 weeks (Common for All Branches of Engineering)

S.No	Course Name	Category	L-T-P-C
1	Physical Activities -- Sports, Yoga and Meditation, Plantation	MC	0-0-6-0
2	Career Counselling	MC	2-0-2-0
3	Orientation to all branches -- career options, tools, etc.	MC	3-0-0-0
4	Orientation on admitted Branch -- corresponding labs, tools and platforms	EC	2-0-3-0
5	Proficiency Modules & Productivity Tools	ES	2-1-2-0
6	Assessment on basic aptitude and mathematical skills	MC	2-0-3-0
7	Remedial Training in Foundation Courses	MC	2-1-2-0
8	Human Values & Professional Ethics	MC	3-0-0-0
9	Communication Skills -- focus on Listening, Speaking, Reading, Writing skills	BS	2-1-2-0
10	Concepts of Programming	ES	2-0-2-0



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Computer Science & Engineering
Course Structure (R20)

Semester - 1 (Theory - 5, Lab - 4)					
S.No	Course No	Course Name	Category	L-T-P	Credits
1.	20A54101	Linear Algebra and Calculus	BS	3-0-0	3
2.	20A51101T	Chemistry	BS	3-0-0	3
3.	20A05201T	C-Programming & Data Structures	ES	3-0-0	3
4.	20A02101T	Basic Electrical & Electronics Engineering	ES	3-0-0	3
5.	20A03202	Engineering Workshop	LC	0-0-3	1.5
6.	20A05202	IT Workshop	LC	0-0-3	1.5
7.	20A51101P	Chemistry Lab	BS	0-0-3	1.5
8.	20A05201P	C-Programming & Data Structures Lab	ES	0-0-3	1.5
9.	20A02101P	Basic Electrical & Electronics Engineering Lab	ES	0-0-2	1.5
Total					19.5

Semester – 2 (Theory – 5, Lab – 5)					
S.No	Course No	Course Name	Category	L-T-P/D	Credits
1.	20A54202	Probability & Statistics	BS	3-0-0	3
2.	20A56201T	Applied Physics	BS	3-0-0	3
3.	20A52101T	Communicative English	HS	3-0-0	3
4.	20A05101T	Python Programming & Data Science	ES	3-0-0	3
5.	20A03101T	Engineering Drawing	ES	1-0-0/2	2
6.	20A03101P	Engineering Graphics Lab	ES	0-0-2	1
7.	20A52101P	Communicative English Lab	HS	0-0-3	1.5
8.	20A56201P	Applied Physics Lab	BS	0-0-3	1.5
9.	20A05101P	Python Programming & Data Science Lab	ES	0-0-3	1.5
Total					19.5

Semester-III							
S.No	Course Code	Course Name	Category	Hours per week			Credits
				L	T	P	
1.	20A54304	Discrete Mathematics & Graph Theory	BS	3	0	0	3
2.	20A04304T	Digital Electronics& Microprocessors	ES	3	0	0	3
3.	20A05301T	Advanced Data Structures & Algorithms	PC	3	0	0	3
4.	20A05302T	Object Oriented Programming Through Java	PC	3	0	0	3
5.	20A05303	Computer Organization	PC	3	0	0	3
6.	20A04304P	Digital Electronics& Microprocessors Lab	ES	0	0	3	1.5
7.	20A05301P	Advanced Data Structures and Algorithms Lab	PC	0	0	3	1.5
8.	20A05302P	Object Oriented Programming Through Java Lab	PC	0	0	3	1.5
9.	20A52201	Universal Human Values	MC	3	0	0	3
10.	20A05304	Skill Oriented Course – I Web application Development	SC	1	0	2	2
Total							24.5

Semester-IV							
S.No	Course Code	Course Name	Category	Hours per week			Credits
				L	T	P	
1.	20A54404	Deterministic & Stochastic Statistical Methods	BS	3	0	0	3
2.	20A05401T	Database Management Systems	PC	3	0	0	3
3.	20A05402T	Operating Systems	PC	3	0	0	3
4.	20A05403T	Software Engineering	PC	3	0	0	3
5.	20A52301 20A52302 20A52303	Humanities Elective– I Managerial Economics & Financial Analysis Organizational Behaviour Business Environment	HS	3	0	0	3
6.	20A05401P	Database Management Systems Lab	PC	0	0	3	1.5
7.	20A05402P	Operating Systems Lab	PC	0	0	3	1.5
8.	20A05403P	Software Engineering Lab	PC	0	0	3	1.5
9.	20A05404	Skill Oriented Course– II Exploratory Data Analysis with R	SC	1	0	2	2
10.	20A99401	Mandatory non credit course Design Thinking for Innovation	MC	2	1	0	0
11.	20A99301	NSS/NCC/NSO Activities	MC	0	0	2	0
Total							21.5
Community Service Internship/Project(Mandatory) for 6 weeks duration during summer vacation							

Note:

1. Eligible and interested students can register either for Honors or for a Minor in IV Semester as per the guidelines issued by the University
2. Students shall register for NCC/NSS/NSO activities and will be required to participate in an activity for two hours in a week during fourth semester.
3. Lateral entry students shall undergo a bridge course in Mathematics during third semester

Semester-V						
S.No.	Course Code	Course Name	L	T	P	Credits
1.	20A05501T	Computer Networks	3	0	0	3
2.	20A05502T	Artificial Intelligence	3	0	0	3
3.	20A05503	Formal Languages and Automata Theory	3	0	0	3
4.		Professional Elective Course – I	3	0	0	3
	20A05504a	Software Project Management				
	20A04702b	Digital Image Processing				
	20A05504c	Big Data Technologies				
5.		Open Elective Course – I	3	0	0	3
6.	20A05501P	Computer Networks Lab	0	0	3	1.5
7.	20A05502P	Artificial Intelligence Lab	0	0	3	1.5
8.		Skill oriented course – III	1	0	2	2
	20A05506	Advanced Web Application Development				
9.	20A05507	Evaluation of Community Service Project				1.5
		Mandatory noncredit course	3	0	0	0
	20A99201	Environmental Science				
Total						21.5

Open Elective-I

S.No.	Course Code	Course Name	Offered by the Dept.
1	20A01505	Building Technology	CE
2	20A02505	Electric Vehicles	EEE
3	20A03505	3D Printing Technology	ME
4	20A04507	MATLAB Programming for Engineers	ECE/EEE
5	20A04508	Introduction to Control Systems	ECE/EEE
6	20A27505	Computer Applications in Food Processing	FT
7	20A54501	Optimization Techniques	Mathematics
8	20A56501	Materials Characterization Techniques	Physics
9	20A51501	Chemistry of Energy Materials	Chemistry

Note:

1. A student is permitted to register for Honours or a Minor in IV semester after the results of III Semester are declared and students may be allowed to take maximum two subjects per semester pertaining to their Minor from V Semester onwards.
2. A student shall not be permitted to take courses as Open Electives/Minor/Honours with content substantially equivalent to the courses pursued in the student's primary major.
3. A student is permitted to select a Minor program only if the institution is already offering a Major degree program in that discipline