JAWAHARLALNEHRUTECHNOLOGICALUNIVERSITYKAKINADA
KAKINADA–533003,AndhraPradesh, India

Professional Electives R20 (5 PE x 3 = 15 Credits)
(Department can offer Maximum 2 Subjects from Each PE, elected by the students)
Note: Student must choose subjects which were not opted earlier
PE starts from III-I

Professional Elective-I	Professional Elective-II	Professional Elective-III	Professional Elective-IV	Professional Elective-IV
a) Construction Technology &Management	a) Advanced Structural Analysis	a)Advanced Structural Engineering	a)Ground Improvement Techniques	a)Design & Drawing of Irrigation Structures
b) Remote Sensing and GIS	b) Architecture and Town Planning	b) Bridge Engineering	b) Geo-Spatial Technologies	b) Earth & Rock fill Dams
c)Environmental Impact Assessment	c) Road Safety Engineering	c) Structural Dynamics	c)Disaster Management & Mitigation	c) Urban Hydrology
d) Low Cost Housing	d) Traffic Engineering	d)Urban Transportation Planning	d) Soil dynamics & Machine Foundations	SWAYAM / NPTEL /MOOCS COURSES (12 weeks duration)

JAWAHARLALNEHRUTECHNOLOGICALUNIVERSITYKAKINADA
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OPEN ELECTIVES R20
(4OEx3=12Credits)
Note:Studentmustchoosesubjectswhichwerenotoptedearlier.
(OEStartsfromIII-I)

Open Elective-I/ Open Elective-III (Offered in Odd Semesters)	Open Elective-II/ Open Elective-IV (Offered in Even Semesters)
a)Strength of Materials b)Fluid Mechanics c)Surveying and Geomatics d)Highway Engineering e)Safety Engineering f)EnvironmentalManagement g)UrbanPlanning	a)Elements of Civil Engineering b)Environmental Engineering c)Disaster Management d)Water Resource Engineering e)Hydraulics and Hydraulic Machinery f)GreenTechnologies g)RemoteSensing&GIS

III B. Tech – I Semester						
S.No	**Course Code**	**Courses**	**Hours per week**			**Credits**
			L	**T**	**P**	**C**
1	PC	Compiler Design	3	0	0	3
2	PC	Operating Systems	3	0	0	3
3	PC	Machine Learning	3	0	0	3
4	Open Elective/Job Oriented	**Open Elective-I** Open Electives offered by other departments/ Optimization in Operations Research(Job oriented course)	3	0	0	3
5	PE	**Professional Elective-I** 1. Software Engineering 2. Object Oriented Analysis and Design 3. DevOps 4. Internet of Things	3	0	0	3
6	PC	Operating Systems & Compiler Design Lab	0	0	3	1.5
7	PC	Machine Learning Lab	0	0	3	1.5
8	SO	**Skill Oriented Course - III** 1. ContinuousIntegrationand Continuous Delivery using DevOps**OR** 2.Helical Insight	0	0	4	2
9	MC	Employability Skills-I	2	0	0	0
10	PR	**Summer Internship 2 Months(Mandatory) after second year(to be evaluated during V semester**	0	0	0	1.5
				Total credits		21.5
11	Minor	Data Warehousing and Data Mining $	3	0	2	4

$- Integrated Course

| **III B. Tech – II Semester** |
S.No	**CourseCode**	**Courses**	**Hours per week**			**Credits**
			L	**T**	**P**	**C**
1	PC	Computer Networks	3	0	0	3
2	PC	Big Data Analytics	3	0	0	3
3	PC	Design and Analysis of Algorithms	3	0	0	3
4	PE	**Professional Elective-II** 1. Deep Learning 2. Software Project Management 3.Distributed Systems 4. Data Wrangling in Data Science 5. ETL Principles	3	0	0	3
5	Open Elective/Job Oriented	**Open Elective-II** Open Electives offered by other departments/ MEAN Stack Development (Job Oriented Course)	3	0	0	3
6	PC	Computer Networks Lab	0	0	3	1.5
7	PC	Big Data Analytics Lab	0	0	3	1.5
8	PC	Deep Learning with Tensorflow	0	0	3	1.5
9	SO	**Skill Oriented Course - IV** 1. MEAN Stack Technologies-ModuleI-HTML5, JavaScript,Node.js, express.js and TypeScript**OR** 2. ETL Design Procedures-Spark	0	0	4	2
10	MC	Employability skills-II	2	0	0	0
\multicolumn{6}{c}{**Total credits**}	**21.5**
Industrial/Research Internship(Mandatory) 2 Months during summer vacation
11	Minor	Data Science Applications $^{\$}$	3	0	2	4
\multicolumn{6}{c}{**Minor courses through SWAYAM**}	**2**

S.No	CourseCode	Courses	L	T	P	C
III B. Tech – II Semester						
			Hours per week (L, T, P)			**Credits**
1	PC	Computer Networks	3	0	0	3
2	PC	Big Data Analytics	3	0	0	3
3	PC	Design and Analysis of Algorithms	3	0	0	3
4	PE	**Professional Elective-II** 1. Deep Learning 2. Software Project Management 3.Distributed Systems 4. Data Wrangling in Data Science 5. ETL Principles	3	0	0	3
5	Open Elective/Job Oriented	**Open Elective-II** Open Electives offered by other departments/ MEAN Stack Development (Job Oriented Course)	3	0	0	3
6	PC	Computer Networks Lab	0	0	3	1.5
7	PC	Big Data Analytics Lab	0	0	3	1.5
8	PC	Deep Learning with Tensorflow	0	0	3	1.5
9	SO	**Skill Oriented Course - IV** 1. MEAN Stack Technologies-ModuleI-HTML5, JavaScript,Node.js, express.js and TypeScript**OR** 2. ETL Design Procedures-Spark	0	0	4	2
10	MC	Employability skills-II	2	0	0	0
		Total credits				**21.5**
		Industrial/Research Internship(Mandatory) 2 Months during summer vacation				
11	Minor	Data Science Applications $^{\$}$	3	0	2	4
		Minor courses through SWAYAM	0	0	0	2

S.No	Course Code	Course Title	Hoursperweek			Credits
			L	T	P	C
1	PE	**Professional Elective-III** 1. Reinforcement Learning 2. Nature Inspired Computing Techniques 3. Social Media Analytics 4. Block Chain Technologies	3	0	0	3
2	PE	**Professional Elective-IV** 1. SnowFlake Cloud Analytics 2. Cloud Computing 3. Information Retrieval Systems 4. NOSQL Databases	3	0	0	3
3	PE	**Professional Elective-V** 1. Social Network Analysis 2. Recommender Systems 3. AI Chatbots 4. Data Visualization	3	0	0	3
4	Open Elective /Job Oriented	**Open Elective-III** Open Electives offered by other departments/ API and Microservices (Job Oriented Course)	3	0	0	3
5	Open Elective /Job Oriented	**Open Elective-IV** Open Electives offered by other departments/ Secure Coding Techniques (Job Oriented Course)	3	0	0	3
6	HS	Universal Human Values 2: Understanding Harmony	3	0	0	3
7	SO	1.Machine Learning with Go (Infosys Spring Board)**OR** 2.MEAN Stack Technologies-Module II-Angular JS and MongoDB	0	0	4	2
8	PR	**Industrial/Research Internship 2 months (Mandatory) after third year (to be evaluated during VII semester**	0	0	0	3
					Total credits	23
9	Minor	Data Wrangling in Data Science$	4	0	0	4
		Minor courses through SWAYAM	0	0	0	2

IV B. Tech –I Semester (Tentative)

$- Integrated Course

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

S. No	Course Code	Courses	L	T	P	Credits
		II Year – I SEMESTER				
1	BS	Mathematics III	3	0	0	3
2	CS	Object Oriented Programming through C++	3	0	0	3
3	CS	Operating Systems	3	0	0	3
4	CS	Software Engineering	3	0	0	3
5	CS	Mathematical Foundations of Computer Science	3	0	0	3
6	CS	Object Oriented Programming through C++ Lab	0	0	3	1.5
7	CS	Operating Systems Lab	0	0	3	1.5
8	CS	Software Engineering Lab	0	0	3	1.5
9	SO	**Skill oriented Course - I** Applications of Python-NumPy **OR** 2) Web Application Development Using Full Stack -Frontend Development – Module-I	0	0	4	2
10	MC	Constitution of India	2	0	0	0
		Total Credits				**21.5**

S. No	Course Code	Courses	L	T	P	Credits
		II Year – II SEMESTER				
1	BS	Probability and Statistics	3	0	0	3
2	CS	Database Management Systems	3	0	0	3
3	CS	Formal Languages and Automata Theory	3	0	0	3
4	ES	Java Programming	3	0	0	3
5	HS	Managerial Economics and Financial Accountancy	3	0	0	3
6	CS	Database Management Systems Lab	0	0	2	1
7	CS	R Programming Lab	0	1	2	2
8	ES	Java Programming Lab	0	0	3	1.5
9	SO	**Skill Oriented Course - II** Applications of Python-Pandas **OR** 2) Web Application Development Using Full Stack -Frontend Development –Module-II	0	0	4	2
		Total Credits				**21.5**
10	Minor	Operating Systems$	3	0	2	3+1
11	Honors	Any course from the Pool, as per the opted track	4	0	0	4

$- Integrated Course

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

S.No	Course Code	Courses	Hours per week			Credits
			III B. Tech – I Semester			
			L	**T**	**P**	**C**
1	PC	Computer Networks	3	0	0	3
2	PC	Design and Analysis of Algorithms	3	0	0	3
3	PC	Data Warehousing and Data Mining	3	0	0	3
4	Open Elective / Job Oriented	**Open Elective-I** Open Electives offered by other departments/ Optimization in Operations Research (Job oriented course)	3	0	0	3
5	PE	**Professional Elective-I** Artificial Intelligence Software Project Management Distributed Systems Advanced Unix Programming	3	0	0	3
6	PC	Data Warehousing and Data Mining Lab	0	0	3	1.5
7	PC	Computer Networks Lab	0	0	3	1.5
8	SO	**Skill Oriented Course – III** 1. Animation course: Animation Design **OR** 2.Continuous Integration and Continuous Delivery using DevOps	0	0	4	2
9	MC	Employability Skills-I	2	0	0	0
10	PR	**Summer Internship 2 Months (Mandatory) after second year (to be evaluated during V semester**	0	0	0	1.5
		Total credits				**21.5**
11	Minor	Database Management Systems$	3	0	2	3+1
12	Honors	Any course from the Pool, as per the opted track	4	0	0	4

$- Integrated Course

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

S.No	Course Code	Courses	Hours per week			Credits
		III B. Tech – II Semester				
			L	T	P	C
1	PC	Machine Learning	3	0	0	3
2	PC	Compiler Design	3	0	0	3
3	PC	Cryptography and Network Security	3	0	0	3
4	PE	**Professional Elective-II** 1.Mobile Computing 2.Big Data Analytics 3.Object Oriented Analysis and Design 4.Network Programming	3	0	0	3
5	Open Elective /Job Oriented	**Open Elective-II** Open Electives offered by other departments/ MEAN Stack Development *(Job Oriented)*	3	0	0	3
6	PC	Machine Learning using Python Lab	0	0	3	1.5
7	PC	Compiler Design Lab	0	0	3	1.5
8	PC	Cryptography and Network Security Lab	0	0	3	1.5
9	SO	**Skill Oriented Course - IV** 1.Big Data:Spark **OR** 2.MEAN Stack Technologies-Module I (HTML 5, JavaScript, Node.js, Express.js and TypeScript)	0	0	4	2
10	MC	Employability skills-II	2	0	0	0
		Total credits				21.5
		Industrial/Research Internship(Mandatory) 2 Months during summer vacation				
11	Minor	Data Structures and Algorithms$	3	0	2	3+1
12	Honors	Any course from the Pool, as per the opted track	4	0	0	4
		Minor course through SWAYAM	-	-	-	2

$- Integrated Course

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

S.No	Course Code	Course Title	Hoursperweek			Credits
			L	T	P	C
1	PE	**Professional Elective-III** 1.Cloud Computing 2.Neural Networks and Soft Computing 3.Ad-hoc and Sensor Networks 4.Cyber Security & Forensics	3	0	0	3
2	PE	**Professional Elective-IV** 1. Deep Learning Techniques 2. Social Networks & Semantic Web 3. Computer Vision 4.MOOCS-NPTEL/SWAYAM$^{\%}$	3	0	0	3
3	PE	**Professional Elective-V** 1.Block-Chain Technologies 2.Wireless Network Security 3.Ethical Hacking 4.MOOCS-NPTEL/SWAYAM$^{\%}$	3	0	0	3
4	Open Elective /Job Oriented	**Open Elective-III** Open Electives offered by other departments/ API and Microservices (Job Oriented Course)	3	0	0	3
5	Open Elective /Job Oriented	**Open Elective-IV** Open Electives offered by other departments/ Secure Coding Techniques (Job Oriented Course)	3	0	0	3
6	HS	Universal Human Values 2: Understanding Harmony	3	0	0	3
7	SO	1.PYTHON: Deep Learning **OR** 2.MEAN Stack Technologies-Module II-Angular JS and MongoDB **OR** 3.APSSDC offered Courses	0	0	4	2
8	PR	**Industrial/Research Internship 2 months (Mandatory) after third year (to be evaluated during VII semester**	0	0	0	3
		Total credits				23
11	Minor	Software Engineering$^{\$}$ / any other from PART-B (For Minor)	3	0	2	3+1
12	Honors	Any course from the Pool, as per the opted track	4	0	0	4
		Minor course through SWAYAM	-	-	-	2

Note: The table has a spanning header "IV B. Tech –I Semester" at the top.

$- Integrated Course
% - MOOC Course

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Open Electives to be offered by CSE for other Branches:

Open Elective-I:	**Open Elective-II:**
1. Data Structures 2. Object Oriented Programming through JAVA 3. Data Base Management Systems 4. Computer Graphics 5. Advanced UNIX Programming 6. Computer Organization and Architecture 7. Operating Systems	1. Python Programming 2. Web Technologies 3. Soft Computing 4. Distributed Computing 5. AI and ML for Robotics 6. Computer Networks 7. Big Data Analytics 8. Computational Tools
Open Elective-III:	**Open Elective-IV:**
1. AI Tools & Techniques 2. Image Processing 3. Information Security 4. Mobile Application Development 5. Data Science 6. Cyber Security 7. Introduction to Internet of Things	1. MEAN Stack Technologies 2. Deep Learning Techniques 3. Cloud computing with AWS 4. Block Chain Technologies 5. Cryptography & Network Security 6. Introduction to Machine Learning 7. Machine Learning with Python

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DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

S.No	Course Code	Courses	L	T	P	C
		III B. Tech – I Semester				
S.No	Course Code	Courses	Hours per week			Credits
			L	T	P	C
1	PC	Compiler Design	3	0	0	3
2	PC	Operating Systems	3	0	0	3
3	PC	Machine Learning	3	0	0	3
4	Open Elective/Job Oriented	**Open Elective-I** Open Electives offered by other departments/ Optimization in Operations Research(Job oriented course)	3	0	0	3
5	PE	**Professional Elective-I** 1. Software Engineering 2. Computer Vision 3. Data Visualization 4. DevOps 5. Machine Learning for Engineering and Science Applications (NPTEL) (https://nptel.ac.in/courses/106106198)	3	0	0	3
6	PC	Operating Systems & Compiler Design Lab	0	0	3	1.5
7	PC	Machine Learning Lab	0	0	3	1.5
8	SO	**Skill Oriented Course - III** Continuous Integration and Continuous Delivery using DevOps	0	0	4	2
9	MC	Employability Skills-I	2	0	0	0
10	PR	**Summer Internship 2 Months (Mandatory) after second year(to be evaluated during V semester**	0	0	0	1.5
		Total credits				**21.5**
11	Minor	Machine Learning$	3	0	2	**4**

$- Integrated Course

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DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

S.No	Course Code	Courses	Hours per week			Credits
		III B. Tech – II Semester				
			L	**T**	**P**	**C**
1	PC	Computer Networks	3	0	0	3
2	PC	Deep Learning	3	0	0	3
3	PC	Design and Analysis of Algorithms	3	0	0	3
4	PE	**Professional Elective-II** 1. Software Project Management 2. Distributed Systems 3. Internet of Things 4. Network Programming	3	0	0	3
5	Open Elective/Job Oriented	**Open Elective-II** Open Electives offered by other departments/ MEAN Stack Development (Job Oriented Course)	3	0	0	3
6	PC	Computer Networks Lab	0	0	3	1.5
7	PC	Algorithms for Efficient Coding Lab	0	0	3	1.5
8	PC	Deep Learning with Tensorflow	0	0	3	1.5
9	SO	**Skill Oriented Course - IV** MEAN Stack Technologies-Module I-HTML 5, JavaScript, Node.js, Express.js and TypeScipt **OR** Big Data : Apache Spark	0	0	4	2
10	MC	Employability skills-II	2	0	0	0
		Total credits				**21.5**
		Industrial/Research Internship(Mandatory) 2 Months during summer vacation				
11	Minor	Deep Learning$	3	0	2	**4**
		Minor courses through SWAYAM	0	0	0	**2**

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DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

S.No	Course Code	Course Title	Hours per week			Credits
			L	T	P	C
1	PE	**Professional Elective-III** 1.Reinforcement Learning 2.Soft Computing 3. Cryptography and Network Security 4. Block Chain Technologies 5. Speech Processing	3	0	0	3
2	PE	**Professional Elective-IV** 1. Robotic Process Automation 2. Cloud Computing 3. Big Data Analytics 4. NOSQL Databases 5. Video Analytics	3	0	0	3
3	PE	**Professional Elective-V** 1. Social Network Analysis 2. Recommender Systems 3. AI Chatbots 4. Object Oriented Analysis and Design 5. Semantic Web	3	0	0	3
4	Open Elective /Job Oriented	**Open Elective-III** Open Electives offered by other departments/API and Microservices (Job Oriented Course)	3	0	0	3
5	Open Elective /Job Oriented	**Open Elective-IV** Open Electives offered by other departments/Secure Coding Techniques (Job Oriented Course)	3	0	0	3
6	HS	Universal Human Values 2: Understanding Harmony	3	0	0	3
7	SO	1.Machine Learning with Go (Infosys Spring Board) **OR** 2.MEAN Stack Technologies-Module II-Angular JS and MongoDB	0	0	4	2
8	PR	**Industrial/Research Internship 2 months (Mandatory) after third year (to be evaluated during VII semester**	0	0	0	3
		Total credits				**23**
9	Minor	Reinforcement Learning	4	0	0	4
		Minor courses through SWAYAM	0	0	0	2

IV B. Tech –I Semester (Tentative)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY:: KAKINADA
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

III Year - I Semester

S. No	Category	Name of the subject	L	T	P	Credits
1	PC	Analog ICs and Applications	3	0	0	3
2	PC	Electromagnetic Waves and Transmission Lines	3	0	0	3
3	PC	Digital Communications	3	0	0	3
4	OE1	Open Elective Course/Job oriented elective-1	2	0	2	3
5	PE1	Professional Elective courses -1	3	0	0	3
6	LC	Analog ICs and Applications LAB	0	0	3	1.5
7	LC	Digital Communications Lab	0	0	3	1.5
8	SC	Data Structures using Java Lab	0	0	4	2
9	MC	Indian Traditional Knowledge	2	0	0	0
	Summer Internship 2 Months (Mandatory) after second year (to be evaluated during V semester		0	0	0	1.5
					Total credits	**21.5**
	Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)					**4**

PE1:	OE1:
1. Antenna and Wave Propagation 2.Electronic Measurements and Instrumentation 3.Computer Architecture & Organization	Candidate should select the subject from list of subjects offered by other departments

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY:: KAKINADA
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

III Year –II Semester

S. No	Category	Name of the subject	L	T	P	Credits
1	PC	Microprocessor and Microcontrollers	3	1	0	3
2	PC	VLSI Design	3	0	0	3
3	PC	Digital Signal Processing	3	0	0	3
4	PE2	Professional Elective courses - 2	3	0	0	3
5	OE 2	Open Elective Course/Job oriented elective -2	2	0	2	3
6	LC	Microprocessor and Microcontrollers - Lab	0	0	3	1.5
7	LC	VLSI Design Lab	0	0	3	1.5
8	LC	Digital Signal Processing Lab	0	0	3	1.5
9	SC	ARM based/ Aurdino based Programming	1	0	2	2
10	MC	Research Methodology	2	0	0	0
					Total credits	**21.5**
	Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)					**4**

Industrial/Research Internship (Mandatory) 2 Months during summer vacation

PE2:	OE2:
1. Microwave Engineering 2. Mobile & Cellular Communication 3. Embedded Systems 4. CMOS Analog IC Design	Candidate should select the subject from list of subjects offered by other departments

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
IV Year –I Semester

S. No	Category	Name of the subject	L	T	P	Credits
1	PE	Professional Elective courses -3	3	0	0	3
2	PE	Professional Elective courses -4	3	0	0	3
3	PE	Professional Elective courses -5	3	0	0	3
4	OE	Open Elective Courses/ Job oriented elective -3	2	0	2	3
5	OE	Open Elective Courses/ Job oriented elective -4	2	0	2	3
6	HS	*Humanities and Social Science Elective	3	0	0	3
7	SC	**Designer tools (HFSS,** Microwave Studio CST. Cadence Virtuoso. Synopsys, Mentor Graphics, Xilinx.)	1	0	2	2
		Industrial/Research Internship 2 Months (Mandatory) afterthird year (to be evaluated during VII semester	0	0	0	3
					Total credits	23
		Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)				4

PE 3: 1. Optical Communication 2. Digital Image Processing 3. Low Power VLSI Design	PE5: 1. Radar engineering 2.Pattern recognition & Machine Learning 3.Internet of Things
PE4: 1.Satellite Communications 2.Soft Computing Techniques 3.Digital IC Design using CMOS	

IV Year – II Semester

S. No.	Category	Code	Course Title	Hours per week			Credits
1	Major Project	PROJ	Project work, seminar and internship inindustry	-	-	-	12
			INTERNSHIP (6 MONTHS)				
						Total credits	12

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY:: KAKINADA
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

GENERAL MINOR TRACKS

S. No.	Subject	L-T-P	Credits
1	Electronics Devices and Basic Circuits	3-1-0	4
2	Digital Electronics	3-1-0	4
3	Principles of Communication	3-1-0	4
4	Signal Analysis	3-1-0	4
In addition to any of the four subjects, MOOC/NPTEL Courses for 04 credits (02 courses@ 2 credits each) are compulsory in the domain of Electronics and Communication Engineering			

List of the **OPEN ELECTIVES** offered by **ECE** Department to **other Branches**:

1. Basics of Signals and Systems
2. Electronic Measurements and Instrumentation
3. Principles of Signal Processing
4. Industrial Electronics
5. Consumer Electronics
6. Fundamentals of Microprocessors and Microcontrollers
7. Transducers and Sensors
8. IOT and Applications
9. Soft Computing Techniques
10. IC Applications
11. Principles of Communications
12. Basic Electronics
13. Data Communications
14. Digital Logic design
15. Remote Sensing and GIS
16. Bio Medical Instrumentation

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Professional Elective Subjects offered to EEE Branch Students:

Professional Elective – I:
1. Linear IC Applications
2. Utilization of Electrical Energy
3. Computer Architecture and Organization
4. Optimization Techniques
5. Object Oriented Programming through Java

Professional Elective – II:
1. Signal and Systems
2. Electric Drives
3. Advanced Control Systems
4. Switchgear and Protection
5. Big Data Analytics

Professional Elective –III:
1. Digital Signal Processing
2. Renewable and Distributed Energy Technologies
3. Flexible Alternating Current Transmission Systems
4. Power Systems Deregulation
5. Data Base Management Systems

Professional Elective – IV:
1. Hybrid Electric Vehicles
2. High Voltage Engineering
3. Programmable Logic Controllers and Applications
4. Cloud Computing with AWS
5. Deep Learning Techniques

Professional Elective – V:
1. Power System Operation and Control
2. Switched Mode Power Conversion
3. AI Applications toElectrical Engineering
4. Data Science
5. MEAN Stack Technologies

Open Electives offered by EEE Department for Other Branches (Except EEE Branch)

Open Elective-I:
1. Renewable Energy Sources
2. Concepts of Optimization Techniques
3. Concepts of Control Systems

Open Elective-II:
1. Battery Management Systems and Charging Stations
2. Fundamentals of utilization of Electrical Energy
3. Indian Electricity Act

Open Elective-III:
1. Concepts of Microprocessors and Microcontrollers
2. Fundamentals of Electric Vehicles
3. Concepts of Internet of Things

Open Elective-IV:
1. Concepts of Power System Engineering
2. Concepts of Smart Grid Technologies