



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

**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**COURSE STRUCTURE M.Tech ECE Common for**

- I. Digital Electronics & Communication Engineering (DECE)
- II. Digital Electronics & Communication Systems (DECS)
- III. Electronics & Communication Engineering (ECE)

**Programme**

*(Applicable for batches admitted from 2019-2020)*



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA**

## I Semester

S. No.	Course Type/ Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	Core 1	Digital System Design	3	0	0	3
2	Core 2	Digital Data Communications	3	0	0	3
3	Prog. Specific Elective	<b>Elective I</b> a) Transform Techniques b) VLSI Technology and Design c) Radar Signal Processing	3	0	0	3
4	Prog. Specific Elective	<b>Elective II</b> a) Statistical Signal Processing b) Optical Communication Technology c) Network Security & Cryptography	3	0	0	3
5	Lab 1	System Design Using Verilog HDL Lab	0	0	4	2
6	Lab2	Data Communications Lab	0	0	4	2
7		Research Methodology and IPR	2	0	0	2
8	Aud 1	Audit Course 1	2	0	0	0
<b>Total</b>			<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

## II Semester

S. No.	Course Type/ Code	Name of the Subject	Teaching Scheme			Credits
			L	T	P	
1	Core 3	Image and Video Processing System Design	3	0	0	3
2	Core 4	Wireless Communications and Networks	3	0	0	3
3	Prog. Specific Elective	<b>Elective III</b> a) CMOS Analog & Digital IC Design b) Advanced Computer Architecture c) Soft Computing Techniques	3	0	0	3
4	Prog. Specific Elective	<b>Elective IV</b> a) DSP Processors and Architectures b) EMI/ EMC c) Object Oriented Programming	3	0	0	3
5	Lab 1	Advanced Communications Lab	0	0	4	2
6	Lab2	Advanced Image processing Lab	0	0	4	2
7	MP	Mini Project(Seminar)	0	0	4	2
8	Aud 2	Audit Course 2	2	0	0	0
<b>Total</b>			<b>14</b>	<b>0</b>	<b>12</b>	<b>18</b>

### III Semester

S. No.	Course Type/Code	Subject	Teaching Scheme			Credits
1	Prog. Specific Elective	a) Detection & Estimation Theory b) Advanced Digital Signal Processing c) Coding Theory and Applications	3	0	0	3
2	Open Elective	a) Business Analytics b) Industrial Safety c) Operations Research d) Cost Management of Engineering Projects e) Composite Materials f) Waste to Energy	3	0	0	3
3	Dissertation	Dissertation Phase – I	0	0	20	10
<b>Total</b>			<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### IV Semester

S. No.	Course Code	Subject	Teaching Scheme			Credits
			L	T	P	
1	Dissertation	Dissertation Phase – II	--	--	32	16
<b>Total Credits</b>			<b>--</b>	<b>--</b>	<b>32</b>	<b>16</b>

**Total Credits: 18+18+16+16 = 68**

#### 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.

  
 Director (i/c)  
 Academic Planning  
 JNTUK Kakinada

#### Suggestions given by Board Members

1. For mini project append following define scope, tools and methodologies to be used, expected results. This can be included as part of presentation.
2. For DECE, DECS, ECE : Wireless Communications lab experiments can be done based on simulations in MATLAB.
3. Where ever possible for internal examinations /experimental questions can be evaluated based on the results.  
By adopting AICTE model curriculum, we here to ensure evaluation guide lines for project and other course as per our JNTUK norms.





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

**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**COURSE STRUCTURE M.Tech ECE**

**Digital System & Computer Electronics (DSCE)**  
**Programme**

*(Applicable for batches admitted from 2019-2020)*



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA**

## I Semester

S. No.	Course Type/Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	Core 1	VLSI Technology and Design	3	0	0	3
2	Core 2	Digital Data Communications	3	0	0	3
3	Prog. Specific Elective	<b>Elective I</b> a. Digital System Design b. Wireless Communications and Networks c. Internet Protocols	3	0	0	3
4	Prog. Specific Elective	<b>Elective II</b> a. Software Defined Radio b. Network Security and Cryptography c. Image & Video Processing	3	0	0	3
5	Lab 1	System Design & Data Communications Lab	0	0	4	2
6	Lab2	VLSI Technology Lab	0	0	4	2
7		Research Methodology and IPR	2	0	0	2
8	Aud 1	Audit Course 1	2	0	0	0
<b>Total</b>			<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

## II Semester

S. No.	Course Type/Code	Name of the Subject	Teaching Scheme			Credits
			L	T	P	
1	Core 3	IoT and Applications	3	0	0	3
2	Core 4	DSP Processors & Architecture	3	0	0	3
3	Prog. Specific Elective	<b>Elective III</b> a. System On Chip Design b. Soft Computing Techniques c. Cyber Security	3	0	0	3
4	Prog. Specific Elective	<b>Elective IV</b> a. Embedded Real Time Operating Systems b. High Speed Networks c. EMI/EMC	3	0	0	3
5	Lab 1	Advanced Internet of Things (IoT) Lab	0	0	4	2
6	Lab2	DSP Processors & Architecture Lab	0	0	4	2
7	MP	Mini Project (Seminar)	0	0	4	2
8	Aud 2	Audit Course 2	2	0	0	0
<b>Total</b>			<b>14</b>	<b>0</b>	<b>12</b>	<b>18</b>

### III Semester

S. No.	Course Type/Code	Subject	Teaching Scheme			Credits
1	Prog. Specific Elective	<b>Elective V</b> a) Digital Design Using HDL b) CMOS Analog and Digital IC Design c) Advanced Computer Architecture	3	0	0	3
2	<b>Open Elective</b>	a) Business Analytics b) Industrial Safety c) Operations Research d) Cost Management of Engineering Projects e) Composite Materials f) Waste to Energy	3	0	0	3
3	Dissertation	Dissertation Phase – I	0	0	20	10
<b>Total</b>			<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### IV Semester

S.No.	Course Code	Subject	Teaching Scheme			Credits
			L	T	P	
1	Dissertation	Dissertation Phase – II	--	--	32	16
<b>Total</b>			<b>--</b>	<b>--</b>	<b>32</b>	<b>16</b>

**Total Credits: 18+18+16+16 = 68**

#### 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.

  
 Director (e/c)  
**Academic Planning**  
 JNTUK Kakinada

#### Suggestions given by Board Members

1. For mini project append following define scope, tools and methodologies to be used, expected results. This can be included as part of presentation.
2. For DSCE: Wireless Communications lab experiments can be done based on simulations in MATLAB.
3. Where ever possible for internal examinations /experimental questions can be evaluated based on the results.

By adopting AICTE model curriculum, we here to ensure evaluation guide lines for project and other course as per our JNTUK norms.





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

**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**COURSE STRUCTURE M.Tech ECE Common for**  
**Communication Engineering & Signal Processing (CE&SP)**  
**Communication & Signal Processing (CSP)**  
**Programme**

*(Applicable for batches admitted from 2019-2020)*



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA**

**I Semester**

S. No.	Course Type/ Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	Core 1	Advanced Digital Signal Processing	3	0	0	3
2	Core 2	Digital Image and Video Processing	3	0	0	3
3	Prog. Specific Elective	<b>Elective I</b> a. DSP Architectures b. Statistical Signal Processing c. Cognitive Radio	3	0	0	3
4	Prog. Specific Elective	<b>Elective II</b> a. Adaptive Signal Processing b. Digital Data Communication c. Coding Theory & Applications	3	0	0	3
5	Lab 1	Advanced Digital Signal Processing Lab	0	0	4	2
6	Lab2	Digital Image and Video Processing Lab	0	0	4	2
7	MC	Research Methodology and IPR	2	0	0	2
8	Aud 1	Audit Course 1	2	0	0	0
<b>Total</b>			<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

**II Semester**

S. No.	Course Type/ Code	Name of the Subject	Teaching Scheme			Credits
			L	T	P	
1	Core 3	Pattern Recognition and Machine Learning	3	0	0	3
2	Core 4	Detection and Estimation Theory	3	0	0	3
3	Prog. Specific Elective	<b>Elective III</b> a. IOT and Applications b. Wireless Sensors Networks c. Soft Computing Techniques	3	0	0	3
4	Prog. Specific Elective	<b>Elective IV</b> a. Smart Antennas b. Biomedical Signal Processing c. Optical Networks	3	0	0	3
5	Lab 1	Pattern Recognition and Machine Learning Lab	0	0	4	2
6	Lab2	Detection and Estimation Theory Lab	0	0	4	2
7	MP	Mini Project (Seminar)	0	0	4	2
8	Aud 2	Audit Course 2	2	0	0	0
<b>Total</b>			<b>14</b>	<b>0</b>	<b>12</b>	<b>18</b>

-- (1)



### III Semester

S. No.	Course Type/Code	Subject	Teaching Scheme			Credits
			L	T	P	
1	Prog. Specific Elective	<b>Elective-V</b> a. Optimization Techniques b. Modeling and Simulation Techniques c. Artificial Intelligence	3	0	0	3
2	<b>Open Elective</b>	a. Business Analytics b. Industrial Safety c. Operations Research d. Cost Management of Engineering Projects e. Composite Materials f. Waste to Energy	3	0	0	3
3	Dissertation	Dissertation Phase – I	0	0	20	10
<b>Total</b>			<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### IV Semester

S. No.	Course Code	Subject	Teaching Scheme			Credits
			L	T	P	
1	Dissertation	Dissertation Phase – II	--	--	32	16
<b>Total</b>			<b>--</b>	<b>--</b>	<b>32</b>	<b>16</b>

**Total Credits: 18+18+16+16 = 68**

#### 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.

  
 Director (i/c)  
 Academic Planning  
 JNTUK Kakinada

#### Suggestions given by Board Members

1. AICTE proposed Program Outcomes (POs) from 'a - e' may be adopted for CESP and CSP specializations
2. AICTE proposed syllabii for the course structure CESP and CSP are to be adopted
3. It is suggested to publish before final project dissertation in
  - i) IEEE/SPRINGER conferences (mandatory)
  - ii) Reputed journals (desirable)



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

**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**COURSE STRUCTURE M.Tech ECE Common for**  
**Systems & Signal Processing (SSP)**  
**Digital Image Processing (DIP)**  
**Programme**

*(Applicable for batches admitted from 2019-2020)*



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA**

## I Semester

S. No.	Course Type/ Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	Core 1	Advanced Digital Signal Processing	3	0	0	3
2	Core 2	Digital Image and Video Processing	3	0	0	3
3	Prog. Specific Elective	<b>Elective I</b> a. DSP Architectures b. Statistical Signal Processing c. Cognitive Radio	3	0	0	3
4	Prog. Specific Elective	<b>Elective II</b> a. Adaptive Signal Processing b. Computer Vision c. Coding Theory & Applications	3	0	0	3
5	Lab 1	Advanced Digital Signal Processing Lab	0	0	4	2
6	Lab2	Digital Image and Video Processing Lab	0	0	4	2
7	MC	Research Methodology and IPR	2	0	0	2
8	Aud 1	Audit Course 1	2	0	0	0
<b>Total</b>			<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

## II Semester

S. No.	Course Type/ Code	Name of the Subject	Teaching Scheme			Credits
			L	T	P	
1	Core 3	Pattern Recognition and Machine Learning	3	0	0	3
2	Core 4	Detection and Estimation Theory	3	0	0	3
3	Prog. Specific Elective	<b>Elective III</b> a. IOT and Applications b. Wireless Sensors Networks c. Soft Computing Techniques	3	0	0	3
4	Prog. Specific Elective	<b>Elective IV</b> a. Audio/Vedio coding and compression b. Biomedical Signal Processing c. Optical Networks	3	0	0	3
5	Lab 1	Pattern Recognition and Machine Learning Lab	0	0	4	2
6	Lab2	Detection and Estimation Theory Lab	0	0	4	2
7	MP	Mini Project (Seminar)	0	0	4	2
8	Aud 2	Audit Course 2	2	0	0	0
<b>Total</b>			<b>14</b>	<b>0</b>	<b>12</b>	<b>18</b>



### III Semester

S. No.	Course Type/Code	Subject	Teaching Scheme			Credits
			L	T	P	
1	Prog. Specific Elective	<b>Elective-V</b> a. Optimization Techniques b. Modeling and Simulation Techniques c. Artificial Intelligence	3	0	0	3
2	<b>Open Elective</b>	a. Business Analytics b. Industrial Safety c. Operations Research d. Cost Management of Engineering Projects e. Composite Materials f. Waste to Energy	3	0	0	3
3	Dissertation	Dissertation Phase – I	0	0	20	10
<b>Total</b>			<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### IV Semester

S. No.	Course Code	Subject	Teaching Scheme			Credits
			L	T	P	
1	Dissertation	Dissertation Phase – II	--	--	32	16
<b>Total</b>			<b>--</b>	<b>--</b>	<b>32</b>	<b>16</b>

**Total Credits: 18+18+16+16 = 68**

#### 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.

  
 Director (A/P)  
 Academic Planning  
 JNTUK Kakinada

#### Suggestions given by Board Members

1. AICTE proposed Program Outcomes (POs) from 'a - e' may be adopted for SSP, DIP specializations
2. AICTE proposed syllabii for the course structure SSP, DIP are to be adopted
3. It is suggested to publish before final project dissertation in
  - i) IEEE/SPRINGER conferences (mandatory)
  - ii) Reputed journals (desirable)



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

**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**COURSE STRUCTURE M.Tech ECE**  
**COMMUNICATION SYSTEMS (CS)**  
**Programme**  
*(Applicable for batches admitted from 2019-2020)*



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA**

## I Semester

S. No.	Course Type/Code	Course Name	Teaching Scheme			Credits
			L	T	P	
1	Core 1	Digital Data Communications	3	0	0	3
2	Core 2	Advanced Digital Signal Processing	3	0	0	3
3	Prog. Specific Elective	<b>Elective I</b> a. Radar Signal Processing b. RF Circuit Design c. Advanced Computer Networks	3	0	0	3
4	Prog. Specific Elective	<b>Elective II</b> a. Wireless LANs and PANs b. Mobile Computing Technologies c. Network Security & Cryptography	3	0	0	3
5	Lab 1	Data Communications Lab	0	0	4	2
6	Lab2	Advanced Digital Signal Processing Lab	0	0	4	2
7		Research Methodology and IPR	2	0	0	2
8	Aud 1	Audit Course 1	2	0	0	0
<b>Total</b>			<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

## II Semester

S. No.	Course Type/Code	Name of the Subject	Teaching Scheme			Credits
			L	T	P	
1	Core 3	Wireless Communications and Networks	3	0	0	3
2	Core 4	Image and Video Processing	3	0	0	3
3	Prog. Specific Elective	<b>Elective III</b> a. Soft Computing Techniques b. Internet Protocols c. Cyber Security	3	0	0	3
4	Prog. Specific Elective	<b>Elective IV</b> a. Optical Networks b. DSP Processors and Architectures c. Radio and Navigational Aids	3	0	0	3
5	Lab 1	Advanced Communications Lab	0	0	4	2
6	Lab2	Advanced Image processing Lab	0	0	4	2
7	MP	Mini Project (Seminar)	0	0	4	2
8	Aud 2	Audit Course 2	2	0	0	0
<b>Total</b>			<b>14</b>	<b>0</b>	<b>12</b>	<b>18</b>



### III Semester

S. No.	Course Type/Code	Subject	Teaching Scheme			Credits
1	Prog. Specific Elective	a) Detection & Estimation Theory b) Coding Theory and Applications c) Software Defined Radio	3	0	0	3
2	Open Elective	a) Business Analytics b) Industrial Safety c) Operations Research d) Cost Management of Engineering Projects e) Composite Materials f) Waste to Energy	3	0	0	3
3	Dissertation	Dissertation Phase – I	0	0	20	10
<b>Total</b>			<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>

### IV Semester

S. No.	Course Code	Subject	Teaching Scheme			Credits
			L	T	P	
1	Dissertation	Dissertation Phase – II	--	--	32	16
<b>Total</b>			<b>--</b>	<b>--</b>	<b>32</b>	<b>16</b>

**Total Credits: 18+18+16+16 = 68**

#### 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.

  
 Director (i/c)  
 Academic Planning  
 JNTUK Kakinada

#### Suggestions given by Board Members

1. For mini project append following define scope, tools and methodologies to be used, expected results. This can be included as part of presentation.
2. For CS : Wireless Communications lab experiments can be done based on simulations in MATLAB.
3. Where ever possible for internal examinations /experimental questions can be evaluated based on the results.  
By adopting AICTE model curriculum, we here to ensure evaluation guide lines for project and other course as per our JNTUK norms.