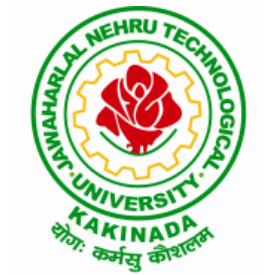


COURSE STRUCTURE

For

ELECTRONICS AND INSTRUMENTATION ENGINEERING

(Applicable for batches admitted from 2016-2017)



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

I Year - I Semester

| S.No. | Subjects | L | T | P | Credits |
|----------------------|----------------------------------------------------------|----|----|----|-----------|
| 1-HS | English – I | 4 | -- | -- | 3 |
| 2-BS | MATHEMATICS-I (Differential Equations) | 4 | -- | -- | 3 |
| 3-ES | MATHEMATICS-II (Numerical Methods and Complex Variables) | 4 | -- | -- | 3 |
| 4-BS | Applied Physics | 4 | -- | -- | 3 |
| 5-ES | Computer Programming | 4 | -- | -- | 3 |
| 6-ES | Engineering Drawing | 1 | -- | 3 | 3 |
| 7-HS | English - Communication Skills Lab -1 | -- | -- | 3 | 2 |
| 8-BS | Applied Physics Laboratory | -- | -- | 3 | 2 |
| 9-BS | Applied Physics – Virtual Labs - Assignments | -- | -- | 2 | -- |
| 10-ES | Engineering Workshop& IT Workshop | -- | -- | 3 | 2 |
| Total Credits | | | | | 24 |

I Year - II Semester

| S.No. | Subjects | L | T | P | Credits |
|----------------------|------------------------------------------------------|----|----|----|-----------|
| 1-HS | English – II | 4 | -- | -- | 3 |
| 2-BS | MATHEMATICS-III (Linear Algebra and Vector Calculus) | 4 | -- | -- | 3 |
| 3-BS | Applied Chemistry | 4 | -- | -- | 3 |
| 4-ES | Electrical and Mechanical Technology | 4 | -- | -- | 3 |
| 5-HS | Environmental Studies | 4 | -- | -- | 3 |
| 6-ES | Data Structures | 4 | -- | -- | 3 |
| 7-BS | Applied Chemistry Laboratory | -- | -- | 3 | 2 |
| 8-HS | English - Communication Skills Lab -2 | -- | -- | 3 | 2 |
| 9-ES | Computer Programming Lab | -- | -- | 3 | 2 |
| Total Credits | | | | | 24 |

II Year - I Semester

| S.No. | Subjects | L | T | P | Credits |
|----------------------|---------------------------------------------|----|----|----|-----------|
| 1 | Electronic Devices and Circuits | 4 | -- | -- | 3 |
| 2 | Network Analysis | 4 | -- | -- | 3 |
| 3 | Signals and Systems | 4 | -- | -- | 3 |
| 4 | Switching Theory and Logic Design | 4 | -- | -- | 3 |
| 5 | Transducer Technology | 4 | -- | -- | 3 |
| 6 | Managerial Economics and Financial Analysis | 4 | -- | -- | 3 |
| 7 | Electronic Devices and Circuits Lab | -- | -- | 3 | 2 |
| 8 | Networks & Electrical Technology Lab | -- | -- | 3 | 2 |
| Total Credits | | | | | 22 |

II Year - II Semester

| S.No. | Subjects | L | T | P | Credits |
|----------------------|----------------------------------------------|----|----|----|-----------|
| 1 | Electronic Circuit Analysis | 4 | -- | -- | 3 |
| 2 | Electromagnetic Waves and Transmission Lines | 4 | -- | -- | 3 |
| 3 | Control Systems | 4 | -- | -- | 3 |
| 4 | Pulse and Digital Circuits | 4 | -- | -- | 3 |
| 5 | Signal Conditioning | 4 | -- | -- | 3 |
| 6 | Principles of Communication | 4 | -- | -- | 3 |
| 7 | Electronic Circuit Analysis LAB | -- | -- | 3 | 2 |
| 8 | Instrumentation LAB - 1 | -- | -- | 3 | 2 |
| Total Credits | | | | | 22 |

III Year - I Semester

| S.No. | Subjects | L | T | P | Credits |
|----------------------|----------------------------------------|----|----|----|-----------|
| 1 | Computer Architecture and Organisation | 4 | -- | -- | 3 |
| 2 | Linear IC Applications | 4 | -- | -- | 3 |
| 3 | Digital IC Applications | 4 | -- | -- | 3 |
| 4 | Process Instrumentation | 4 | -- | -- | 3 |
| 5 | Digital Signal Processing | 4 | -- | -- | 3 |
| 6 | Pulse and Digital Circuits Lab | -- | -- | 3 | 2 |
| 7 | Linear IC Applications Lab | -- | -- | 3 | 2 |
| 8 | Digital IC Applications Lab | -- | -- | 3 | 2 |
| MC | Professional Ethics & Human Values | -- | 3 | -- | -- |
| Total Credits | | | | | 21 |

III Year - II Semester

| S.No. | Subjects | L | T | P | Credits |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|-----------|
| 1 | Micro Processors & Micro Controllers | 4 | -- | -- | 3 |
| 2 | VLSI Design | 4 | -- | -- | 3 |
| 3 | Analytical Instrumentation | 4 | -- | -- | 3 |
| 4 | Measuring Instruments | 4 | -- | -- | 3 |
| 5 | OPEN ELECTIVE 1. OOPs through Java 2. Data Mining 3. Power Electronics 4. Bio-Medical Engineering 5. Artificial Neural Networks | 4 | -- | -- | 3 |
| 6 | Micro Processors & Micro Controllers Lab | -- | -- | 3 | 2 |
| 7 | Process Instrumentation Lab | -- | -- | 3 | 2 |
| 8 | Digital Signal Processing Lab | -- | -- | 3 | 2 |
| MC | IPR & Patents | -- | 2 | -- | -- |
| Total Credits | | | | | 21 |

IV Year - I Semester

| S.No. | Subjects | L | T | P | Credits |
|----------------------|------------------------------------------------------|----|----|-----|-----------|
| 1 | Data Acquisition systems | 4 | -- | -- | 3 |
| 2 | Management Science | 4 | -- | -- | 3 |
| 3 | Computer Networks | 4 | -- | -- | 3 |
| 4 | Digital Image Processing | 4 | -- | -- | 3 |
| 5 | Elective I | 4 | -- | --- | 3 |
| | 1. Quality and reliability Engineering systems(QRES) | | | | |
| | 2. Analog IC Design | | | | |
| 6 | Elective II | 4 | -- | -- | 3 |
| | 1. Mixed signal Design | | | | |
| | 2. Robotics & Automation | | | | |
| 3. EMI/EMC | | | | | |
| 7 | Instrumentation Lab – II | -- | -- | 2 | 2 |
| 8 | Instrumentation Lab – III | -- | -- | 2 | 2 |
| Total Credits | | | | | 22 |

IV Year - II Semester

| S.No. | Subjects | L | T | P | Credits |
|------------------------------------------|----------------------------|----|----|----|-----------|
| 1 | Industrial Automation | 4 | -- | -- | 3 |
| 2 | Data Communication | 4 | -- | -- | 3 |
| 3 | Embedded systems | 4 | -- | -- | 3 |
| 4 | Elective III | 4 | -- | -- | 3 |
| | 1. Digital IC Design | | | | |
| | 2. Calibration & standards | | | | |
| 3. Micro electromechanical systems(MEMS) | | | | | |
| 5 | Seminar | -- | 3 | -- | 2 |
| 6 | Project | -- | -- | -- | 10 |
| Total Credits | | | | | 24 |

Total Course Credits = 48+44 + 42 + 46 = 180