

1. Btech (EE) Curriculum (2024) onwards

| Course Number | Course Title | Credits | Type |
|-------------------|---|-----------|--------------------------|
| Semester 1 | | | |
| BT 1010 | Introduction to Life Sciences | 1 | Basic Sciences |
| ID 1063 | Intro to Programming | 3 | Basic Engineering Skills |
| EE 1010 | Mathematics for Electrical Engineers | 3 | Basic Sciences |
| EE 1030 | Matrix Theory | 3 | Basic Sciences |
| EE 1101 | Circuits and network analysis | 3 | Basic Engineering Skills |
| LA xxxx | English Comm | 2 | LA/CA |
| Total | | 15 | |
| Semester 2 | | | |
| EE 1060 | Differential Equations and Transform Techniques | 3 | Basic Sciences |
| EE 1204 | Engineering Electromagnetics | 2 | Department core |
| EE 1201 | Digital systems | 3 | Department core |
| EE 1200 | Electrical Circuits Lab | 2 | Lab Basket |
| EE 1080 | Probability | 3 | Basic Engineering Skills |
| EE 1003 | Scientific Programming for Electrical Engineers | 2 | Department core |
| EE 1501 | Digital Systems Lab | 1 | Lab Basket |
| Total | | 16 | |
| Semester 3 | | | |
| ID 2230 | Data Structures & Applications | 3 | Basic Engineering Skills |
| EE 2000 | Signal Processing | 3 | Department core |
| EE 2103 | Semiconductor Device Fundamentals | 3 | Department core |
| EE 2200 | Electrical Machines | 3 | Department core |
| EE 2080 | Random Processes | 1 | Basic Engineering Skills |
| | Lab basket | 2 | Lab Basket |
| | Science Basket | 2 | Basic Sciences |
| Total | | 17 | |
| Semester 4 | | | |
| EE 2400 | Analog Electronics | 3 | Department core |
| EE 2600 | Power System Analysis | 3 | Department core |
| EE 2802 | Machine Learning | 3 | Basic Engineering Skills |
| EE 2101 | Control Systems | 3 | Department core |

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|---|----------------------------------|-----------|----------------------|
| | Science Basket | 2 | Basic Sciences |
| | Lab Basket | 2 | Lab Basket |
| EM 3020 | Introduction to Entrepreneurship | 1 | LA/CA |
| Total | | 17 | |
| Semester 5 | | | |
| EE 3301 | Intro to VLSI Design | 2 | Department core |
| EE 3500 | Machines Lab | 2 | Lab Basket |
| EE 3501 | Power Electronics | 3 | Department core |
| EE 3700 | Communication Systems | 3 | Department core |
| EE 3004 | Current Trends in EE | 1 | Department core |
| | Science Basket | 2 | Basic Sciences |
| | Free Electives | 1 | Free Electives |
| XX xxxx | LA/CA Electives | 2 | LA/CA |
| Total | | 16 | |
| Semester 6 | | | |
| EE xxxx | Department electives | 12 | Department electives |
| EE xxxx | Lab Basket | 2 | Lab Basket |
| EE 3014 | Current Trends in EE | 1 | Department core |
| LAxxx | LA/CA Elective | 2 | LA/CA |
| Total | | 17 | |
| Semester 7 | | | |
| EE xxxx | Department electives | 6 | Department electives |
| LA xxxx | LA/CA Electives | 2 | LA/CA |
| FE xxxx | Free Electives | 6 | Free Electives |
| Internship (6 credits can be converted to Department Electives) | | | |
| Total | | 14 | |
| Semester 8 | | | |
| EE xxxx | Department electives | 9 | Department electives |
| LA xxxx | Ethics and Values | 1 | LA/CA |
| FE xxxx | Free Electives | 6 | Free Electives |
| Total | | 16 | |

Science Basket

A total of 6 credits from the science basket need to

| be completed (suggested sem 2,3,4,5) | |
|--------------------------------------|--------------------------------|
| EP 1108 | Modern Physics |
| CY 1010 | Environmental Chemistry |
| MA 1230 | Series of Functions |
| MA 2130 | Complex Variables |
| MA 2120 | Transform Techniques |
| MA 1130 | Vector Calculus |
| MA 3060 | Numerical Analysis |
| MA 2150 | Introduction to Metric Spaces |
| EP 2200* | Thermodynamics |
| EP 2108* | Special Relativity |
| EP 2228* | Fluid Dynamics |
| EP 2100* | Classical Mechanics |
| CC 1010* | Introduction to Climate Change |
| MA 1240* | Combinatorics |
| MA 2140* | Introduction to Statistics |
| MA 2510* | Linear Programming |
| EP3100 | Quantum Mechanics - 1 |
| EE3210 | Quantum Mechanics - 2 |
| EP3200 | Solid state physics |
| EP3120 | Statistical Mechanics |
| CY1031 | Chemistry Lab |
| EP1031 | Physics Lab |

* Subject to approval from the parent department

| Lab Basket | | |
|--|---------------------------------------|---|
| A minimum of 6 credits need to be completed from the following lab courses | | |
| EE 2401 | Analog Lab | 2 |
| EE 3401 | Microprocessor Lab | 2 |
| EE 3701 | Comm Lab | 2 |
| EE 2801 | DSP Lab | 2 |
| EE 3802 | FPGA Lab | 2 |
| EE 3011 | Electromagnetics and Applications Lab | 2 |

| | | |
|--|--------------------------------------|-------|
| EE2501 | Semiconductor devices lab | 2 |
| EE2301 | Electronic Devices and Circuits lab | 2 |
| EE2504 | Electronic system design project lab | 2 |
| Optional Project | | |
| The following project courses can also be taken as department electives. | | |
| | | |
| EE 3005 | Independent Project | Sem 5 |
| EE 3025 | Independent Project | Sem 6 |
| EE 4015 | Independent Project | Sem 7 |
| EE 4025 | Independent Project | Sem 8 |