# VIT-AP University

## Bachelor of Technology in Electronics and Computer Engineering
## School of Electronics Engineering

| Programme Credit Structure | Credits |
|---|---|
| University Core Courses | 80 |
| Programme Core Courses | 40 |
| Programme Elective / Spl. Elective | 20 |
| University Elective | 20 |
| Total Graded Credit Requirement | 160 |

| University Core | | | | 80 |
|---|---|---|---|---|
| | | T | P | C |
| MAT1001 | Calculus for Engineers | 3 | 2 | 4 |
| MAT1002 | Applications of Differential and Difference Equations | 4 | 0 | 4 |
| MATXXXX | Probability and Statistics | 3 | 2 | 4 |
| PHY1007 | Principles of Electronics | 3 | 2 | 4 |
| CHY1009 | Chemistry and Environmental Studies | 3 | 2 | 4 |
| CSE1012 | Problem Solving using Python | 3 | 2 | 4 |
| CSE2005 | Object Oriented Programming using JAVA | 3 | 2 | 4 |
| CSE2001 | Data Structures and Algorithms | 3 | 2 | 4 |
| ECE1001 | Fundamentals of Electrical Engineering | 3 | 2 | 4 |
| ENG1001/ ENG1002 | English for Essential Communication/ English for Effective Communication | 2 | 2 | 3 |
| ENG1002/ ENG2001 | English for Effective Communication/ English for Professional Communication | 2 | 2 | 3 |
| FRLxxxx | Foreign Language | 2 | 0 | 2 |
| MGT1040 | Entrepreneurship | 3 | 2 | 4 |
| MGT1001 | Ethics and Values | 0 | 2 | 2 |
| | Indian Studies | 2 | 0 | 2 |
| STSxxxx | Qualitative and Quantitative Skills Practice I | 3 | 0 | 1 |
| STSxxxx | Qualitative and Quantitative Skills Practice II | 3 | 0 | 1 |
| BIC4002 | Industrial Internship/ Senior Design Project | 0 | 0 | 12 |
| CAP4001 | Capstone | 0 | 0 | 6 |
| SIT1001 | Summer Internship | 0 | 0 | 2 |
| ECS2002 | Engineering Clinics - System Design | 0 | 4 | 2 |
| ECS3001 | Engineering Clinics - Real Time System | 0 | 4 | 2 |
| EXCXXXX | Extracurricular Activities | | | 2 |

| Programme Core | | | | 40 |
|---|---|---|---|---|
| ECMXXXX | Digital Logic and Computer Architecture | 3 | 2 | 4 |
| ECMXXXX | Network Theory | 4 | 0 | 4 |
| CSE1005 | Software Engineering | 3 | 2 | 4 |
| ECMXXXX | Computer Networks | 3 | 2 | 4 |
| ECMXXXX | Analog Electronics | 3 | 2 | 4 |
| ECMXXXX | Microcontrollers and Embedded C Programming | 3 | 2 | 4 |
| ECE2008 | VLSI System Design | 3 | 2 | 4 |
| ECMXXXX | Signal Processing | 3 | 2 | 4 |
| ECMXXXX | Theory of Computation and Compiler Design | 4 | 0 | 4 |
| CSE2008 | Operating Systems | 3 | 2 | 4 |

| Programme Electives | | | | 20 |
|---|---|---|---|---|
| ECE2006 | Communication Systems | 3 | 2 | 4 |
| CSE2007 | Database Management Systems | 3 | 2 | 4 |
| CSE3004 | Design and Analysis of Algorithms | 3 | 2 | 4 |
| ECMXXXX | Fundamentals of Artificial Intelligence and Machine Learning | 3 | 2 | 4 |
| ECE3004 | Embedded Hardware Software System Design | 3 | 2 | 4 |
| ECE3006 | HDL Verification and Methodology | 3 | 2 | 4 |
| ECE3023 | Scripting Languages | 3 | 3 | 4 |
| ECE4003 | Embedded C Programming and Linux Development | 3 | 2 | 4 |
| CSE4004 | Web Technologies | 3 | 2 | 4 |
| CSE4005 | Data Warehousing and Data Mining | 3 | 0 | 3 |
| ECE4005 | SoC Design | 3 | 2 | 4 |
| CSE4007 | Digital Image Processing | 3 | 2 | 4 |

| University Electives | | 20 |
|---|---|---|
| Compulsory for PAT Registered Students | | |
| CSE2025 | AWS Solution Architecture | |
| CSE1022 | Introduction to Programming | |
| STS3006 | Competitive Coding I | |
| STSXXX | Qualitative and Quantitative Skills Practice III | |
| STSXXX | Competitive Coding II | |
| STSXXX | Qualitative and Quantitative Skills Practice IV | |

Engineering |Sciences | Humanities | Social Sciences | Liberal arts | Economics | Finance | Management

**Honours Degree (20 credits)** - Students can opt for an Honours Degree" in the same discipline by earning 20 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Honours options.

**Minors Degree (20 credits) -** Students can opt for a "Minor Degree" in other disciplines 20 credits in addition to the mini-mum credit requirement of the Undergraduate Degree from the courses listed in the Minor options.

**Double Major Degree (40 credits)** -Students can opt for a “Double Major" in other disciplines by earning 40 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Second Major options.