VIT UNIVERSITY
(Estd. u/s 3 of UGC Act 1956)

# School of Electronics Engineering (SENSE)

## B.Tech(ECE) - Curriculum

## (For students joining in the AY 2012-13)

### UNIVERSITY CORE

| S. No | Course Code | Title of the course | L T P C | Prerequisites |
|---|---|---|---|---|
| 1 | **ENG101** | **English for Engineers – I*** | **2 0 2 3** | **ENG001/VIT English Proficiency Test** |
| 2 | **ENG001** | **Effective English*** | **3 0 0 3** | **-** |
| 3 | ENG102 | English for Engineers-II | 2 0 2 3 | ENG101 |
| 4 | | Foreign Language | 2 0 0 2 | None |
| 5 | **CHY104** | **Environmental Studies*** | **3 0 0 3** | **None** |
| 6 | **CSE101** | **Computer Programming and Problem Solving*** | **2 0 2 3** | **None** |
| 7 | **MAT101** | **Multivariable calculus and Differential Equations*** | **3 1 0 4** | **None** |
| 8 | **PHY101** | **Modern Physics*** | **3 0 2 4** | **None** |
| 9 | CHY101 | Engineering Chemistry | 2 1 2 4 | None |
| 10 | MGT301/HUM121 | Ethics and Values | 3 0 0 3 | None |
| 11 | ECE498 | Comprehensive Examination | - - - 2 | |
| | | Total | 31 | |

### PROGRAM CORE

| S. No | Course Code | Subject Name | L T P C | Prerequisites |
|---|---|---|---|---|
| 1 | MEE101 | Engineering Graphics | 0 0 4 2 | None |
| 2 | MEE102 | Workshop Practice | 0 0 2 1 | None |
| 3 | PHY102 | Material Science | 3 0 2 4 | PHY101 |
| 4 | MAT105 | Differential and Difference Equations | 3 1 0 4 | MAT101 |
| 5 | MAT201 | Complex variables and Partial Differential Equations | 3 1 0 4 | MAT105 |
| 6 | **ECE102** | **Fundamentals of Electrical Engineering*** | **3 1 0 4** | **None** |

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|---|---|---|---|---|
| 7 | ECE101 | Electron Devices and Circuits | 3 0 2 4 | PHY101 |
| 8 | CSE102 | Data Structures and Algorithms | 3 0 2 4 | CSE101 |
| 9 | EEE108 | Network Theory | 3 0 0 3 | ECE102 |
| 10 | ECE 206 | Signals and Systems | 3 0 0 3 | MAT101 |
| 11 | ECE201 | Probability Theory and Random Process | 3 0 0 3 | ECE 206 |
| 12 | ECE207 | Analog Electronic circuits | 3 0 2 4 | ECE101 |
| 13 | ECE204 | Analog Circuit Design | 3 0 2 4 | ECE207 |
| 14 | ECE203 | Modulation Techniques | 3 0 2 4 | ECE207 |
| 15 | ECE208 | Engineering Electromagnetics | 3 0 0 3 | None |
| 16 | ECE103 | Digital Logic Design | 3 0 2 4 | ECE101 |
| 17 | ECE202 | Transmission Lines and Fields | 3 0 0 3 | ECE208 |
| 18 | EEE226 | Control Systems | 3 0 2 4 | MAT105, ECE102 |
| 19 | ECE303 | Digital Signal Processing | 3 0 2 4 | ECE206 |
| 20 | ECE304 | Microcontroller & Applications | 3 0 2 4 | ECE103 |
| 21 | ECE306 | Antennas and wave Propagation | 3 0 0 3 | ECE202 |
| 22 | ECE305 | Digital Communication | 3 0 2 4 | ECE203 |
| 23 | ECE307 | Information Theory and coding | 3 0 0 3 | ECE305 |
| 24 | ECE308 | Computer Communication | 3 0 2 4 | ECE305 |
| 25 | ECE401 | Optical Communication and Networks | 2 0 0 2 | ECE305 |
| 26 | ECE402 | Microwave Engineering | 3 0 2 4 | ECE306 |
| 27 | ECE301 | VLSI System Design | 3 0 0 3 | ECE103 |
| 28 | ECE403 | Wireless and Mobile communication | 3 0 0 3 | ECE305 |
| 29 | | Management Course – I | 3 0 0 3 | None |
| 30 | | Management Course- II | 3 0 0 3 | None |
| 31 | | Management Course- III | 3 0 0 3 | None |
| 32 | ECE499 | Project Work | 20 | |
| 33 | ECE399 | In-plant Training | 2 | |

**Program Electives**

| S. No | Course Code | Subject Name | L T P C | Prerequisites |
|---|---|---|---|---|
| 1. | ECE205 | Electrical and Electronic Measurements | 3 0 0 3 | NIL |
| 2. | | Communication Switching Networks | 3 0 0 3 | ECE305 |
| 3. | ECE302 | Computer Organization and Architecture | 3 0 0 3 | ECE103 |
| 4. | | Analog IC Design | 3 0 0 3 | ECE204 |
| 5. | ECE404 | Digital Image Processing | 3 0 0 3 | ECE207 |
| 6. | ECE309 | Biomedical instrumentation & Analysis | 3 0 0 3 | ECE205 |

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| 7. | ECE405 | Satellite Communication | 3 0 0 3 | ECE305 |
| 8. | ECE406 | Embedded System design | 3 0 0 3 | ECE304 |
| 9. | | Radar and Navigational Aids | 3 0 0 3 | ECE306 |
| 10. | | Statistical Signal Processing | 3 0 0 3 | ECE201 |
| 11. | EEE204 | Nanotechnology Fundamentals and Applications. | 3 0 0 3 | PHY101 |
| 12. | ECE209 | Introduction to Nanoscience & Nanotechnology | 3 0 0 3 | PHY101 (Antirequisite EEE204) |
| 13. | ECE407 | Neural NW & Fuzzy Control | 3 0 0 3 | MAT101/201, ECE303 |
| 14. | ECE310 | Digital System Design | 3 0 0 3 | ECE103 |
| 15. | | Micro and Smart Systems Technology | 3 0 0 3 | PHY102/ 104, ECE205 |
| 16. | ECE311 | Robotics and Automation | 3 0 0 3 | EEE226 |
| 17. | ECE410 | Wireless Sensor Networks | 3 0 0 3 | ECE308 |
| 18. | | Nuclear Instrumentation | 3 0 0 3 | ECE205 |
| 19. | ECE408 | Advanced Microcontrollers (ARM, DSP) | 3 0 0 3 | ECE304 |
| 20. | EEE202 | Opto Electronics | 3 0 0 3 | ECE101 |
| 21. | | Lidar and its applications | 3 0 0 3 | ECE401 |
| 22. | MAT205 | Applied Numerical Methods | 3 1 0 4 | |
| 23. | EEE111 | Electrical Technology | 3 0 2 4 | ECE102 |

***Note:***

**** Courses which are in bold are essential for the First Semester.***