**COURSE STRUCTURE**

1. Student has to complete a minimum of 60 credits for the award of M.Tech Degree. The credit structure is as follows:  
   Core:27 credits  
   Project :15 credits  
   Electives:18 credits (minimum)
2. Full time duration :2 years, Subject to maximum of 2 ½ years
3. Part time duration : 3 years, Subject to maximum of 3 ½ years
4. Full time student has to take 12 to 18 credits in each semester
5. Part time student has to take 9 to 12 credits in each semester
6. In addition to above a student can audit a total number of 3 courses during his entire programme of M. Tech, for which he will be awarded a AU grade, subject to following:
   1. In 1st year: 1st semester, full time student is not allowed to audit a course, whereas a part-time student can do so
   2. A part time or full time student can audit only one course in one semester

## M.Tech Syllabus

### Core Courses:

#### Odd Session

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr No.** | **Course No.** | **Subject** | **No.of Credits** |
| 1. | ECEM-101 | [Digital Communications](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech1.htm) | 3 |
| 2. | ECEM-102 | [Software Engineering](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech2.htm) | 3 |
| 3. | ECEM-103 | [Wireless Communications](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech3.htm) | 3 |
| 4. | ECEM-104 | [Advanced Computer Architecture](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech4.htm) | 3 |
| 5. | ECEM-105 | [Laboratory I (Digital Communication)](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech5.htm) | 1 |
| 6. | ECEM-106 | [Laboratory II (RDBMS)](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech6.htm) | 2 |
| 7. | ECEM-107 | [Advanced Design Techniques](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech7.htm) | 2 |

#### Even Session

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr No.** | **Course No.** | **Subject** | **No.of Credits** |
| 1. | ECEM-108 | [Computer Networks](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech8.htm) | 3 |
| 2. | ECEM-109 | [Image Processing](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech9.htm) | 3 |
| 3. | ECEM-110 | [Laboratory III (Image Processing)](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech10.htm) | 1 |
| 4. | ECEM-111 | [Laboratory IV (Internet and Web Design)](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech11.htm) | 2 |
| 5. | ECEM-112 | [Communication skills & Research Techniques](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech12.htm) | Compulsory Audit |

#### Seminar & Project

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr No.** | **Course No.** | **Subject** | **No.of Credits** |
| 1. | ECEM-201 | [Seminar](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech13.htm) | 1 |
| 2. | ECEM-202 | [Project (Dissertation) – I](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech14.htm) | 3 |
| 3. | ECEM-203 | [Project (Dissertation) – II](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech15.htm) | 12 |

#### Elective Courses

##### (Minimum of 18 credits to be chosen in)

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr No.** | **Course No.** | **Subject** | **No.of Credits** |
| 1. | ECEM-151 | [Advanced Digital Signal Processing](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech16.htm) | 3 |
| 2. | ECEM-152 | [Multimedia Information System](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech17.htm) | 3 |
| 3. | ECEM-153 | [Advanced microprocessors](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech18.htm) | 3 |
| 4. | ECEM-154 | [Advanced TV Technology and Cable TV](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech19.htm) | 3 |
| 5. | ECEM-155 | [VLSI Design](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech20.htm) | 3 |
| 6. | ECEM-156 | [OOPS with JAVA](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech21.htm) | 3 |
| 7. | ECEM-157 | [System Software](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech22.htm) | 3 |
| 8. | ECEM-158 | [Special Topics in Applied Mathematics](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech23.htm) | 3 |
| 9. | ECEM-159 | [Embedded Systems](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech24.htm) | 3 |
| 10. | ECEM-160 | [Real Time Operating Systems](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech25.htm) | 3 |
| 11. | ECEM-161 | [Optical Communications](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech26.htm) | 3 |
| 12. | ECEM-162 | [Telemedicine](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech27.htm) | 3 |
| 13. | ECEM-163 | [Random Processes and Queuing Theory](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech28.htm) | 3 |
| 14. | ECEM-164 | [VLSI Technology](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech29.htm) | 3 |
| 15. | ECEM-165 | [Management Information System](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech30.htm) | 3 |
| 16. | ECEM-166 | [Special Topics in Communications](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech31.htm) | 3 |
| 17. | ECEM-167 | [Switching and Statistical Multiplexing in Telecommunications networks](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech32.htm) | 3 |
| 18. | ECEM-168 | [Analog & Mixed Signal Design](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech33.htm) | 3 |
| 19. | ECEM-169 | [Computer and Network Security](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech34.htm) | 3 |
| 20. | ECEM-170 | [ESD reliability](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech35.htm) | 3 |
| 21. | ECEM-171 | [RF IC Design](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech36.htm) | 3 |
| 22. | ECEM-172 | [System Design](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech37.htm) | 3 |
| 23. | ECEM-173 | [Special Topics in Information Technology (IT)](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech38.htm) | 3 |
| 24. | ECEM-174 | [Object Oriented Database](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech39.htm) | 3 |
| 25. | ECEM-175 | [Data ware Housing](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech40.htm) | 3 |
| 26. | ECEM-176 | [E-commerce](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech41.htm) | 3 |
| 27. | ECEM-177 | [Software Project Management](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech42.htm) | 3 |
| 28. | ECEM-178 | [Computer Vision and Artificial Intelligence](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech43.htm) | 3 |
| 29. | ECEM-186 | [Programming and Programming Methodology](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech44.htm) | 3 |
| 30. | ECEM-187 | [Artificial neural Networks](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech45.htm) | 4 |
| 31. | ECEM-188 | [Pattern Classification](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech46.htm) | 4 |
| 32. | ECEM-189 | [Network Security Laboratory](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech47.htm) | 2 |
| 33. | MTHM-103 | [Function spaces and Wavelet Analysis](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech48.htm) | 3 |
| 34. | MTHM-104 | [Operations Research](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech49.htm) | 3 |
| 35. | MTHM-105 | [Advanced Engineering Mathematics](http://www.nitsri.net/electronics/syllabus/M.Tech/M.Tech50.htm) | 3 |

NOTE:In addition,M.Tech(C&IT) students can take Pre-PhD Courses of the department as Electives.