

**FIRST YEAR M. TECH DIGITAL SYSTEMS ENGINEERING
SYLLABUS STRUCTURE
SEMESTER I**

| Course Code | Course | Teaching Scheme | | | | Evaluation Scheme | | | | | |
|-------------|--|-----------------|----|----|---------|-------------------|------------------|-------------------|---------------------|-------------------|----|
| | | L | T | P | Credits | Scheme | Theory (Marks) % | | Practical (Marks) % | | |
| | | | | | | | Max | Min % for Passing | Max | Min % for Passing | |
| EDS1013 | Embedded System Design | 3 | 1 | -- | 4 | ISE | 20 | 40 | 40 | -- | -- |
| | | | | | | UT1 | 15 | | | -- | -- |
| | | | | | | UT2 | 15 | 40 | 40 | -- | -- |
| | | | | | | ESE | 50 | | | -- | -- |
| EDS1023 | VLSI System Design | 3 | 1 | -- | 4 | ISE | 20 | 40 | 40 | -- | -- |
| | | | | | | UT1 | 15 | | | -- | -- |
| | | | | | | UT2 | 15 | 40 | 40 | -- | -- |
| | | | | | | ESE | 50 | | | -- | -- |
| ECS1023 | Advanced Digital Signal Processing | 3 | 1 | -- | 4 | ISE | 20 | 40 | 40 | -- | -- |
| | | | | | | UT1 | 15 | | | -- | -- |
| | | | | | | UT2 | 15 | 40 | 40 | -- | -- |
| | | | | | | ESE | 50 | | | -- | -- |
| ECS1033 | Research Methodology | 1 | -- | 2 | 2 | ISE | -- | -- | -- | 50 | 50 |
| | | | | | | ESE | -- | -- | -- | 50 | 50 |
| ECS1043 | Programming Fundamentals | -- | 1 | 4 | 3 | ISE | -- | -- | -- | 100 | 50 |
| SHP 551 | Technical Communication | 1 | -- | 2 | 2 | ISE | -- | -- | -- | 50 | 50 |
| EDS1033 | Embedded System Design Lab | -- | -- | 2 | 1 | ISE | -- | -- | -- | 50 | 50 |
| | | | | | | ESE | -- | -- | -- | 50 | 50 |
| EDS1043 | VLSI System Design Lab | -- | -- | 2 | 1 | ISE | -- | -- | -- | 50 | 50 |
| | | | | | | ESE | -- | -- | -- | 50 | 50 |
| ECS1063 | Advanced Digital Signal Processing Lab | -- | -- | 2 | 1 | ISE | -- | -- | -- | 50 | 50 |
| | | | | | | ESE | -- | -- | -- | 50 | 50 |
| EDS1053 | Seminar | -- | -- | 2 | 2 | ISE | -- | -- | -- | 100 | 50 |

Total Credits: 24, Total Contact Hours/Week: 30

***Audit course**

| | | | | | | | |
|-----------|------------------|----|----|----|----|-----|---|
| RIT-MT-LL | Liberal learning | -- | -- | -- | -- | P/F | Certificate issued by competent authority |
|-----------|------------------|----|----|----|----|-----|---|

The course to be completed within span of two years as per guidelines given in the curriculum

FIRST YEAR M. TECH. DIGITAL SYSTEMS ENGINEERING
SYLLABUS STRUCTURE
SEMESTER II

| Course Code | Course | | Teaching Scheme | | | | Evaluation Scheme | | | | | |
|-----------------|--|---|-----------------|----|----|---------|-------------------|------------------|-------------------|---------------------|-------------------|----|
| | | | L | T | P | Credits | Scheme | Theory (Marks) % | | Practical (Marks) % | | |
| | | | | | | | | Max | Min % for Passing | Max | Min % for Passing | |
| SHP 516 | Advanced Engineering Mathematics | | 2 | -- | -- | 2 | ISE | 20 | 40 | | -- | -- |
| | | | | | | | UT | 30 | | | -- | -- |
| | | | | | | | ESE | 50 | 40 | -- | -- | |
| EDS2013 | Electromagnetic Interference and compatibility | | 3 | 1 | -- | 4 | ISE | 20 | 40 | 40 | -- | -- |
| | | | | | | | UT1 | 15 | | | -- | -- |
| | | | | | | | UT2 | 15 | | | -- | -- |
| | | | | | | | ESE | 50 | 40 | -- | -- | |
| Elective I | EDS2023 | Protocol and interfaces | 3 | 1 | -- | 4 | ISE | 20 | 40 | 40 | -- | -- |
| | EDS2033 | VLSI modeling | | | | | UT1 | 15 | | | -- | -- |
| | | | | | | | UT2 | 15 | | | -- | -- |
| | | | | | | | ESE | 50 | 40 | -- | -- | |
| Elective II | EDS2043 | Embedded OS & Device Drivers | 3 | 1 | -- | 4 | ISE | 20 | 40 | 40 | -- | -- |
| | EDS2053 | VLSI testing and verification | | | | | UT1 | 15 | | | -- | -- |
| | | | | | | | UT2 | 15 | | | -- | -- |
| | | | | | | | ESE | 50 | 40 | -- | -- | |
| Elective III | EDS2063 | Mobile Application Development | 3 | -- | -- | 3 | ISE | 20 | 40 | 40 | -- | -- |
| | EDS2073 | Standard cell library and memory design | | | | | UT1 | 15 | | | -- | -- |
| | | | | | | | UT2 | 15 | | | -- | -- |
| | | | | | | | ESE | 50 | 40 | -- | -- | |
| EDS2083 | Soft computing | | 3 | -- | -- | 3 | ISE* | 20 | 40 | 40 | -- | -- |
| | | | | | | | ESE* | 50 | | | 40 | -- |
| Elective Lab I | EDS2093 | Embedded System Lab I | -- | -- | 4 | 2 | ISE | 20 | 40 | 40 | -- | -- |
| | EDS2103 | VLSI Lab I | | | | | ESE | 50 | | | 40 | -- |
| Elective Lab II | EDS2113 | Embedded System Lab II | -- | -- | 4 | 2 | ISE | 20 | 40 | 40 | -- | -- |
| | EDS2123 | VLSI Lab II | | | | | ESE | 50 | | | 40 | -- |
| EDS2133 | Miniproject | | -- | -- | 2 | 2 | ISE | -- | -- | | 100 | 50 |

Total Credits: 26, Total Contact Hours/Week: 30

SECOND YEAR M. TECH DIGITAL SYSTEM ENGINEERING
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SEMESTER III

| Course Code | Course | Teaching Scheme | | | | Evaluation Scheme | | | |
|-------------|---|-----------------|----|----|---------|-------------------|---------|-------------------|-------------------|
| | | L | T | P | Credits | Scheme | Credits | Practical (Marks) | |
| | | | | | | | | Max | Min % for Passing |
| EDS3013 | Field Training/MOOC/NPTEL/Coursera/Courses suggested by BOS | -- | -- | -- | 2 | ISE | 2 | 100 | 50 |
| EDS3023 | Dissertation Phase-I | -- | -- | -- | 4 | ISE | 4 | 100 | 50 |
| EDS3033 | Dissertation Phase-II | -- | -- | 5 | 10 | ISE | 4 | 100 | 50 |
| EDS3043 | | | | | | ESE | 6 | 100 | 50 |

Total Credits: 16, Total Contact Hours/Week: 05

SECOND YEAR M. TECH DIGITAL SYSTEM ENGINEERING
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SEMESTER IV

| Course Code | Course | Teaching Scheme | | | | Evaluation Scheme | | | |
|-------------|------------------------|-----------------|----|----|---------|-------------------|---------|-------------------|-------------------|
| | | L | T | P | Credits | Scheme | Credits | Practical (Marks) | |
| | | | | | | | | Max | Min % for Passing |
| EDS4013 | Dissertation Phase-III | -- | -- | -- | 08 | ISE | 8 | 100 | 50 |
| EDS4023 | Dissertation Phase-IV | -- | -- | 5 | 10 | ISE | 4 | 100 | 50 |
| EDS4033 | | | | | | ESE | 6 | 100 | 50 |

Total Credits: 16, Total Contact Hours/Week: 05