## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

## COURSE STRUCTURE M.Tech CSE for
## COMPUTER SCIENCE & TECHNOLOGY PROGRAMME

*(Applicable for batches admitted from 2019-2020)*



## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

## I SEMESTER

| S.No | Course Code | Courses | Category | L | T | P | C |
|------|-------------|---------|----------|---|---|---|---|
| 1 | MTCST1101 | **Program Core-1** Mathematical Foundations of Computer Science | PC | 3 | 0 | 0 | 3 |
| 2 | MTCST1102 | **Program Core-2** Advanced Data Structures | PC | 3 | 0 | 0 | 3 |
| 3 | MTCST1103 | **Program Elective-1** 1. Artificial Intelligence 2. Cloud Computing 3. Digital Image Processing 4. Advanced Operating System 5. Optimization Techniques | PE | 3 | 0 | 0 | 3 |
| 4 | MTCST1104 | **Program Elective-2** 1. Big Data Analytics 2. Applied Cryptography 3. Advanced Computer Networks 4. Embedded Computing 5. Parallel Computer Architecture | PE | 3 | 0 | 0 | 3 |
| 5 | MTCST1105 | **Research Methodology and IPR** | CC | | | 0 | 2 |
| 6 | MTCST1106 | **Laboratory-1** Advanced Data Structures Lab | LB | 0 | 0 | 4 | 2 |
| 7 | MTCST1107 | **Laboartory-2** Computing Lab | LB | 0 | 0 | 4 | 2 |
| 8 | MTCST1108 | **Audit Course-1*** | AC | 2 | 0 | 0 | 0 |
| | | **Total Credits** | | | | | 18 |

*Student has to choose any one audit course listed below.

## II SEMESTER

| S.No | Course Code | Courses | Category | L | T | P | C |
|------|-------------|---------|----------|---|---|---|---|
| 1 | MTCST1201 | **Program Core-3** Advanced Algorithms | PC | 3 | 0 | 0 | 3 |
| 2 | MTCST1202 | **Program Core-4** Machine Learning | PC | 3 | 0 | 0 | 3 |
| 3 | MTCST1203 | **Program Elective-3** 1. Soft Computing 2. Advanced Network Principles and Protocols 3. Internet of Things 4. Open Source Programming 5. Pattern Recognition | PE | 3 | 0 | 0 | 3 |
| 4 | MTCST1204 | **Program Elective-4** 1. Natural Language Processing 2. Full Stack Technologies 3. Parallel Algorithms 4. Object Oriented Software Engineering 5. Distributed Database | PE | 3 | 0 | 0 | 3 |
| 5 | MTCST1205 | **Laboratory-3** Advance Algorithms Lab | LB | 0 | 0 | 4 | 2 |
| 6 | MTCST1206 | **Laboartory-4** Machine Learning Lab | LB | 0 | 0 | 4 | 2 |
| 7 | MTCST1207 | **Mini Project with Seminar** | MP | 2 | 0 | 0 | 2 |
| 8 | MTCST1208 | **Audit Course-2 *** | AC | 2 | 0 | 0 | 0 |
| | | **Total Credits** | | | | | 18 |

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*Student has to choose any one audit course listed below.*
**Audit Course 1 & 2:**

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technical Knowledge
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development through Life Enlightenment Skills

**III-SEMESTER**

| S.No | Course Code | Courses | Category | L | T | P | C |
|------|-------------|---------|----------|---|---|---|---|
| 1 | MTCST2101 | **Program Elective-5** <br> 1. Deep Learning <br> 2. Ethical Hacking <br> 3. MOOCs-I through NPTEL/SWAYAM- 12 Week Program related to the programme which is not listed in the course structure | PE | 3 | 0 | 0 | 3 |
| 2 | MTCST2102 | **Open Elective** <br> 1. MOOCs-2 through NPTEL/SWAYAM- any 12 week course on Engineering/ Management/ Mathematics offered by other than parent department <br> 2. Course offered by other departments in the college | OE | 3 | 0 | 0 | 3 |
| 3 | MTCST2103 | **Dissertation-I/Industrial Project #** | PJ | 0 | 0 | 20 | 10 |
| | | **Total Credits** | | | | | 16 |

#*Students going for Industrial Project/Thesis will complete these courses through MOOCs*

**IV SEMESTER**

| S.No | Course Code | Courses | Category | L | T | P | C |
|------|-------------|---------|----------|---|---|---|---|
| 1 | MTCST2201 | **Dissertation-II** | PJ | 0 | 0 | 32 | 16 |
| | | **Total Credits** | | | | | 16 |

Open Electives offered to other departments:
1. Python Programming
2. Web Technologies
3. Artificial Intelligence
4. Internet of Things
5. Machine Learning
6. Advanced Data Structures

Director(I/c)
**Academic Planning**
JNTUK Kakinada