

M. Tech (Software Engineering)

About the Programme:

Master of Technology in Software Engineering is a two-year post-graduate programme dedicated to enlightening students with the designing, implementing, testing, and modifying of the software to make it viable, maintainable, and affordable. The programme offer students with a strong base of software engineering principles and applications in scientific and engineering domains.

Brief view of the programme:

- ✓ **Programme Name:** M. Tech (Software Engineering)
- ✓ **Duration:** 2 Years (4 Semesters)
- ✓ **NBA Accreditation:** Yes (Accredited during 2015 to 2017)
- ✓ **Offered by the Department:** Computer Science & Engineering
- ✓ **Programme offered since:** 2005
- ✓ **Sanctioned Intake:** 18

Objectives of the programme:

- Develop technologically competent computer professionals in today's IT-centric scenario by training them in the contemporary software engineering principles and paradigms.
- Provide students a deep insight into various cutting-edge technologies & tools and thereby creating diverse career opportunities.
- Improve analytical, logical and presentation skills of the students by applying evolving technologies of software engineering in developing practical solutions to complex problems in consonance with the legal and ethical responsibilities.
- Provide the students with project engineering and management skills catering to the changing industry needs and constraints across the advancing domains of computing.
- Prepare the students to take up research-oriented projects, industry internships and entrepreneurship endeavors by training them to work with multi-disciplinary teams and engaging them for life-long learning in pursuit of their professional accomplishment.

Expected outcomes / deliverables of the programme:

After the successful completion of the programme, students of the programme will exhibit the following attributes:

- ❖ An ability to independently carry out research / investigation and development work to solve practical problems.

- ❖ An ability to write and present a substantial technical report / document.
- ❖ Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.
- ❖ Integrate the knowledge of software engineering principles and paradigms in the design of system components and processes to meet the specific needs of the industry.
- ❖ Apply the cutting-edge technologies, skills and CASE tools necessary to identify, analyze and formulate solutions to complex engineering problems with societal commitment.
- ❖ Recognize the need to engage in lifelong learning that helps to explore all dimensions of software engineering practices and contemporary technologies with ethical values.

Unique outcomes / deliverables of this programme include:

- Apply the knowledge of software engineering principles and paradigms in the design of system components and processes that meet the specific needs of the industry.
- Use the techniques, skills, and CASE tools necessary for engineering practice and coordinate the construction, deployment, and maintenance of software systems.

Programme Highlights:

- M.Tech. Software Engineering is a PG Programme with NBA Accreditation and is approved by UGC, AICTE and JNTU Hyderabad.
- The programme is of four semesters that makes the student to explore contemporary technologies and makes the student industry ready with a focus towards research and promotes self-learning.
- Dedicated faculty with rich experience to provide exploration of good opportunities.
- The programme offers a set of core courses and elective courses, allowing students to specialize in Data Analytics, Internet of Things, Machine Learning, Software Engineering and Testing methodologies.
- The programme makes use of Languages, Platforms, and Libraries related to R, R-Studio, MATLAB, Software Testing Tools, Selenium, Python, Hadoop Framework and Java framework, PHP, WAMP, Eclipse, Tomcat and Code Blocks.
- Improves the research methodology and self-learning using Technical seminars and project works.
- The Dissertation (Major Project Work) in the third and final semester enables students to closely work with faculty with funded projects with good stipend / work with industry using internships that enables the student to see many opportunities after the graduation.
- The programme uses a Continuous Evaluation System, mentoring and monitoring by a dedicated programme coordinator who will assist the students in the entire journey of 2 years of the programme and motivates the students towards the dreams accomplishment.

- Uses the latest teaching methodologies like WIT & WIL, Course Based Projects, Learning By Doing, Lab Protocol, Story Board that escalates the learning process of the students.
- Visit to industry premises in regular time that stimulates the students to be ready for industry orientation / research promotion.
- Facilitates the student world-class infrastructure like High-end computing facility (Dedicated servers, GPUs, LMS and High-end PCs)

Programme Curriculum:

The programme curriculum of Software Engineering is designed that meets the aspirations of the industry with practical approach, research orientation and with great social impact. The curriculum includes courses related to Core contents of the programme, Professional electives and Open electives. In each elective the programme offers a collection of rich and contemporary courses that enables the student a good choice.

Eligibility Criteria:

B.E / B. Tech / AMIE in CSE / CSIT / Electronics & Computers Engg / IT & Computer Science and Systems Engineering or Equivalent.

This course is for individuals who...

are interested in designing and development of software including software applications, computer games, word processing and business application communication system, network distribution, etc.

Students who are looking for...

a career in areas such as software project management, software quality management, software testing, software designing, software requirement and estimation must opt this programme.

Career path you can choose after the programme:

- Application development specialist
- Software engineer
- Manager
- Software Developer
- Information Systems Engineer
- Software Engineering Associate
- Data Analyst / Data Scientist
- Engineering Technician and
- Health Care and R& D sector