Department of Computer Science and Engineering

NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL

RULES AND REGULATIONS

SCHEME OF INSTRUCTION AND SYLLABI

for M. Tech. CSE Program

(Effective from 2021-22)

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

National Institute of Technology Warangal

Vision and Mission of the Institute

VISION

Towards a Global Knowledge Hub, striving continuously in pursuit of excellence in Education, Research, Entrepreneurship and Technological services to the society

MISSION

- Imparting total quality education to develop innovative, entrepreneurial and ethical future professionals fit for globally competitive environment.
- Allowing stake holders to share our reservoir of experience in education and knowledge for mutual enrichment in the field of technical education.
- Fostering product-oriented research for establishing a self-sustaining and wealth creating centre to serve the societal needs.

Department of Computer Science and Engineering

Vision and Mission of the Department

VISION

Attaining global recognition in Computer Science & Engineering education, research and training to meet the growing needs of the industry and society.

MISSION

- MS1: Imparting quality education through well-designed curriculum in tune with the challenging software needs of the industry.
- MS2: Providing state-of-art research facilities to generate knowledge and develop technologies in the thrust areas of computer science and engineering.
- MS3: Developing linkages with world class organizations to strengthen industry- academia relationships for mutual benefit.

Department of Computer Science and Engineering:

Brief about the Department:

The Department of Computer Science and Engineering was established in the year 1991. The department offers high quality undergraduate, postgraduate and doctoral programs. The B. Tech. (Computer Science and Engineering) program was started in the year 1983 with an intake of 20 students. The intake was subsequently increased to 120 in 2008. M. Tech (Computer Science and Engineering) program was started in 1987 with an intake of 18 and subsequently increased to 20 in 2008. M. Tech (Information Security) was introduced in the year 2008 Under ISEAP sanctioned by Ministry of Communication and Information Technology (MCIT), DOE, GOI, New Delhi with intake of 20. Later, it was renamed as Computer Science and Information Security. The Master of Computer Applications (MCA) program was started in 1986 with an intake of 30 and increased to 46 from 2008. B. Tech, M. Tech. (CSE) and M. Tech. (CSIS) programs were accredited in 2014 by NBA as per Washington Accord.

List of Programs offered by the Department:

Program	Title of the Program
B.Tech.	Computer Science and Engineering
M. Tech.	Computer Science and Engineering
	Computer Science and Information Security
MCA	Master in Computer Applications
Ph. D.	Computer Science and Engineering

Note: Refer to the Rules and Regulations for M. Tech. program (weblink) given on the institute website.

M.Tech. – Computer Science and Engineering

Program Educational Objectives

PEO-1	Design, develop and test software systems for engineering applications.
PEO-2	Analyze technical solutions to computational problems and develop efficient algorithms.
PEO-3	Work in multi-disciplinary teams to specify software requirements and to achieve project goals.
PEO-4	Communicate effectively and demonstrate professional ethics with societal responsibilities.
PEO-5	Engage in lifelong learning to keep pace with changing landscape of technologies for professional advancement.

Program Articulation Matrix

PEO / Mission Statements	PEO-1	PEO-2	PEO-3	PEO-4	PEO-5
Imparting quality education through well-designed curriculum in tune with the challenging software needs of the industry	3	2	1	1	2
Providing state-of-art research facilities to generate knowledge and develop technologies in the thrust areas of computer science and engineering.	2	2	2	-	2
Developing linkages with world class organizations to strengthen industry-academia relationships for mutual benefit	2	2	2	2	1

1-Slightly; 2-Moderately; 3-Substantially

M. Tech. – COMPUTER SCIENCE & ENGINEERING

Program Outcomes

PO-1	Engage in critical thinking and pursue investigations / research and development to solve practical problems.
PO-2	Communicate effectively, write and present technical reports on complex engineering activities by interacting with the engineering fraternity and with society at large.
PO-3	Demonstrate higher level of professional skills to tackle multidisciplinary and complex problems related to Computer Science and Engineering.
PO-4	Apply concepts of theoretical computer science to design software systems satisfying realistic, economic, social, safety and security constraints.
PO-5	Design and develop processes to meet targeted needs with optimum utilization of resources.
PO-6	Develop robust, reliable, scalable techniques and tools for knowledge-based systems.

MAPPING OF PROGRAM OUTCOMES WITH PROGRAME EDUCATIONAL OBJECTIVES

PO	PEO-1	PEO-2	PEO-3	PEO-4	PEO-5
1	2	3	2	-	-
2	1	-	-	3	1
3	2	2	3	-	1
4	3	3	2	3	2
5	3	3	2	3	1
6	2	3	3	2	2

CURRICULAR COMPONENTS

Degree Requirements for M. Tech. in Computer Science and Engineering

Category of Courses	Credits
Professional Core Courses (PCC)	29
Professional Elective Courses (PEC)	15
Seminar I and II	02
Comprehensive Viva-voce	02
Dissertation Work (12+20)	32
Total	80