Pandit Deendayal Petroleum University (PDPU), Gandhinagar
School of Technology
Department of Computer Science and Engineering

M.Tech. Cyber Security

About the Program

As we are living in a far more technologically advanced world, Internet pervades every aspect of our lives. Widespread usage of digital applications, data networks, smart devices, etc., increase chances of cyber exploitation and cyber crimes. In fact, cyber security becomes one of the greatest challenges of this digital era as more and more businesses moving towards the digital transformation. Cyber attacks led to huge demand for cyber security professionals as it can be extremely expensive for business to endure.

The Master program in cyber security offered by the department of Computer Science and Engineering is designed to equip students with the latest knowledge of cyber security along with its specific tools and techniques that can be applied to solve some real-world problem for a specific domain. The course includes fundamentals of cryptography, computer forensics, privacy in cyber network, overview of computer and network security along with the practice of tools and techniques. Program also features a research-based approach to learning and encourages the pragmatic application of a variety of different tools and methods to solve complex problems.

At the end of the course, the Graduates of the program will be able to:

- A fundamental understanding of
    - Software design and secure practices
    - Common vulnerabilities of computing and networked systems
    - Cyber security risk in an ethical, social, and professional manner
    - Privacy issues in cyber space
- Have knowledge of cyber attacking and defending methods
- Able to apply authentication techniques to minimize security risk of information systems and networks.
- Able to apply different tools and techniques to respond, to resolve, and to recover from cyber incidents

Department of Computer Science & Engineering has envisioned the need of Cyber Security professionals in current market and incubated a proposal to start two-year PG program as M. Tech in Cyber Security. This program aims to cater the need of current demand of cyber security professionals/engineer and numerous opportunities across organizations. The course orients on basic theoretical information along with hands-on experience with modern cyber forensics tools and techniques.

Who is eligible to apply?

Graduate degree in engineering B.E. /B. Tech. or equivalent in CSE/IT/ICT/EC or MCA*, MSc (Computer Science/IT)* with minimum 60% or CPI/CGPA of 6.5 on a 10 point scale are eligible to apply for M.Tech. Cyber Security programme under Department of Computer Science and Engineering.

50% seats will be filled through candidates with valid GATE score in "Computer Science & Engineering" and remaining 50% seats will be filled through Non GATE candidates. In case, if 50% GATE seats do not get filled up through eligible candidates, it would be filled up through non GATE candidates.

*M.C.A and M.Sc. candidates must be GATE qualified in Computer Science & Engineering to become eligible for the admission or As per PDPU Norms.

Pre-requisite:

Students are expected to have good background in mathematics, security and data structures. Any programming experience would be an added advantage.

About Curriculum

The curriculum for the course has been designed by referring the curriculum of reputed Indian & Foreign Universities. It is further fine-tuned as per the industry requirement.

The curriculum has been structured in three phases:

1. Core Courses: The core courses are essential to provide critical understanding of theoretical and practical issues relating to cyber security.

2. Elective Courses: While core courses provide the breadth of program, the elective courses of cyber security provide the length in the respective domains of the cyber security.

3. Capstone Project: The objective of this course is to affiliate the students from day one towards research in the cyber security with not only theory but practical aspects and helpful towards final year thesis.