

M.Tech. in Networks & Information Security

Duration of the programme: 2 years.

Total no. of Credits = 48 = 24 (Course Credits) + 24 (Thesis Credits)

12 Credits of Core includes basic courses in Computer Networks, Wireless Networks, Algorithms & Data Structures, Cryptography, and Network Security

12 Credits of Electives on topics like Information Security, System Security, Wireless Security, Cyber Security, Hardware Security, etc

Eligibility Criteria:

The candidate must have earned BTech/BE/MSc/Equivalent Degree in any discipline, and have a valid GATE score in CS/EC/EE/MA/ST. The applicant must have already earned BTech/BE/MSc or, at least, should be in the final year of the respective studies. In the latter case, it would be assumed that the candidate will be able to complete the degree by the time of M.Tech. admission. Please check the admissions page for more details.

IIT UG: **Any discipline with minimum CGPA 8.0 at the time of admission (Only such students are eligible to get MHRD scholarship).**

Department of Computer Science and Engineering 2-Year M.Tech. (Networks and Information Security) Curriculum (Effective from August 2020 batch)

Course No	Course Name	Number of Credits	Semester
CS6013	Advanced Data Structures & Algorithms	3	I
CS5060	Advanced Computer Networks	3	I
CS6160	Cryptology	3	I
CSxxxx	Core Elective	3	I
CSxxxx	Network Security	3	II
CSxxxx	Core Electives	9	II
CS6035	Thesis (Stage-1)	4	II (Summer)
CS6045	Thesis (Stage-2)	8	III
CS6055	Thesis (Stage-3)	12	IV
	English Communications	1	I/II
	Technical Seminar	1	I/II

Faculty of various streams would jointly define thesis problem statements in the broad area of security: wireless/network/IoT security, cryptography/analysis, machine learning methods in security

(e.g. intrusion detection), Formal Methods in Security, Secure coding, block chains, computational complexity aspects in crypto etc.

Notes:

- A maximum of 3 credits may be taken in mathematics department or any engineering department with the approval of DPGC which also designate the course to be part of any one of CS Core Electives
- A CS Core elective is a graduate level course offered by the CSE department. A subset of such courses that are offered at IITH and are of relevance to this programme are mentioned below.
- The DPGC will designate the courses for CS Core Elective that can be taken by the students of this program at the beginning of the 2nd semester.
- The selection of thesis guides will be done at the end of the first semester.
- The students can take up the thesis work in the CS department in the domain of Networks and Information Security.

Relevant CS Core electives at IITH:

Course Code	Course Name	Dept	Credits
CS6260	Topics in Wireless Networks	CSE	3
CS5453	Internet of Things	CSE	3
CS5553	Wireless Networks & Security	CSE	3
CS6220	Topics in Networks	CSE	3
CS5070	Networked Wireless Systems	CSE	3
CS6190	Advanced topics in Cryptology	CSE	3
CS5140	Quantum Cryptography	CSE	3
CS5543	The Blockchain: Theory and Practice	CSE	
CS5530	Basics of BlockChains: Distributed Computing Perspective	CSE	
CS5643	Software Defined Networks	CSE	1
CS5650	Data Center Networking	CSE	1
CS5610	Applied Machine Learning	CSE	3

