

Master of Science (M.Sc.) – Computer Science — Common Syllabus

Duration: 2 years (4 semesters) | Evaluation: Theory exams, Practicals, Projects, and Dissertation

Course Structure

- Duration: 2 years (4 semesters).
- Each semester includes core theory papers, practicals, and electives.
- Credits: Typically 3–4 per paper.
- Evaluation: Written exams, internal assessments, lab work, and dissertation/project work.

Semester I — Suggested Papers

- Discrete Mathematics and Graph Theory
- Advanced Programming in C and Data Structures
- Computer Organization and Architecture
- Operating Systems – Concepts and Design
- Programming Lab – I (C and Data Structures)

Semester II — Suggested Papers

- Design and Analysis of Algorithms
- Database Management Systems
- Object-Oriented Programming using Java
- Computer Networks
- Programming Lab – II (Java and DBMS)

Semester III — Suggested Papers

- Software Engineering and Project Management
- Artificial Intelligence and Machine Learning
- Web Technologies and Cloud Computing
- Elective Paper – I (Data Mining / Cyber Security / IoT)
- Programming Lab – III (AI / Web / Cloud Applications)

Semester IV — Suggested Papers

- Advanced Computer Networks and Security
- Big Data Analytics
- Elective Paper – II (Blockchain / Image Processing / NLP)
- Project / Dissertation / Viva Voce
- Internship / Industry Project

Electives (Indicative List)

- Data Mining and Warehousing
- Cyber Security and Ethical Hacking
- Internet of Things (IoT)
- Blockchain Technology
- Image Processing and Computer Vision
- Natural Language Processing (NLP)
- Advanced Cloud and Edge Computing

Notes:

- This syllabus is based on the UGC model curriculum and major Indian university syllabi for M.Sc. Computer Science.
- Each paper generally carries 100 marks, with 70% for external and 30% for internal evaluation.
- Students must complete a dissertation or major software project in the final semester.
- Laboratory sessions emphasize hands-on programming, system design, and use of modern software tools.

Prepared by: ChatGPT — Common M.Sc. Computer Science Syllabus Template

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