



Indian Institute of Information
Technology Dharwad (IIIT Dharwad)

M.Tech Computer Science & Engineering (Cybersecurity Specialization)

Type

Pg Program

Mode

Online

Duration

2 Years

Total fees

₹ 354,000

Indian Institute of Information Technology Dharwad (IIIT Dharwad)

IIIT Dharwad is an Institute of National Importance known for technology education research and industry collaboration. Located in the Hubballi-Dharwad innovation hub it promotes interdisciplinary learning creativity and responsible innovation. The institute develops globally competent technology professionals equipped to address evolving societal and digital challenges.

M.Tech Computer Science & Engineering (Cybersecurity Specialization)

Highlights

- ◆ Earn an M.Tech in Computer Science & Engineering with a specialisation in Cybersecurity from IIIT Dharwad.
- ◆ Build advanced capabilities across cryptography, network security, digital forensics and secure system design.
- ◆ Explore the application of artificial intelligence and analytics for cyber-threat detection and mitigation.
- ◆ Apply concepts through practical exercises, research-oriented learning and cybersecurity use cases.
- ◆ Participate in a seven-day campus immersion at IIIT Dharwad for hands-on learning and academic engagement.

Learning outcomes

- ◆ Architect secure digital systems by applying cybersecurity principles across networks, applications and infrastructure.
- ◆ Identify, assess and mitigate cyber threats using structured security frameworks and analytical approaches.
- ◆ Apply cryptographic methods to protect data, communications and digital transactions.
- ◆ Conduct digital forensic investigations and analyse evidence related to cybersecurity incidents.
- ◆ Use AI-enabled techniques to detect anomalies, strengthen threat intelligence and support proactive cyber defence.

Eligibility Criteria

Educational Qualification : Any Graduate with a background in B.Tech / B.E., M.Sc., or M.C.A.

Academic Performance:

General / OBC category

Minimum CGPA/CPI: 6.5 on a 10-point scale, or Minimum aggregate percentage: 60%.

SC / ST / PwD category

Minimum CGPA/CPI: 6.0 on a 10-point scale, or Minimum aggregate percentage: 55%.



Curriculum Overview (continued)

Semester I (40 subjects)

- ◆ Applied Mathematics for Computer Science
- ◆ Unit 1: Linear Algebra
- ◆ Unit 2: Optimization
- ◆ Unit 3: Probability and Stochastic Process
- ◆ Unit 1: Growth Functions
- ◆ Unit 2: Trees
- ◆ Unit 3: Graph Algorithms
- ◆ Unit 4: Algorithm Design Strategies
- ◆ Unit 5: Complexity Classes
- ◆ Programming Paradigms Lab
- ◆ Unit 1: Procedural Programming
- ◆ Unit 2: Object-Oriented Programming
- ◆ Unit 3: Functional Programming
- ◆ Unit 4: Concurrent and Parallel Execution
- ◆ Unit 5: Declarative and Logic Programming
- ◆ Unit 6: Scripting and Automation
- ◆ Introduction to AI/ML
- ◆ Unit 1: Introduction to AI
- ◆ Unit 2: Problem Solving Using Search
- ◆ Unit 3: Knowledge Representation
- ◆ Unit 4: Introduction to Machine Learning
- ◆ Unit 5: Supervised Learning
- ◆ Unit 6: Unsupervised Learning
- ◆ Introduction to Cybersecurity
- ◆ Unit 1: Introduction to Cybersecurity
- ◆ Unit 2: Identity and Access Management
- ◆ Unit 3: Standards and Regulations
- ◆ Introduction to Cloud Computing
- ◆ Unit 1: Introduction to Cloud Computing
- ◆ Unit 2: Cloud Service Models and Deployment Models
- ◆ Introduction to Research
- ◆ Unit 1: Introduction
- ◆ Unit 2: Literature Review
- ◆ Unit 3: Research Exploration
- ◆ Unit 4: Patenting and Publications
- ◆ Unit 5: Presentation
- ◆ Report and Thesis Writing
- ◆ Unit 6: Conclusions and Future Scope
- ◆ Unit 7: Principles and Ethics in Research
- ◆ Project 1

Semester II (10 subjects)

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| ◆ Advanced Computing Lab | ◆ Unit 5: Cloud and Container-Based Computing |
| ◆ Unit 1: Advanced Programming and Performance Engineering | ◆ Unit 6: AI/ML Pipeline Engineering |
| ◆ Unit 2: Parallel Computing Platforms | ◆ Literature Review and Seminar |
| ◆ Unit 3: Distributed Computing Frameworks | ◆ Electives (1/2/3/4 credits) |
| ◆ Unit 4: GPU and Accelerated Computing | ◆ Project-II |
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Semester III (2 subjects)

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| ◆ Project-III | ◆ Electives (1/2/3/4 credits) |
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Semester IV (2 subjects)

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| ◆ Project-IV | ◆ Electives (1/2/3 credits) |
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Cyber Security Specializations (41 subjects)

- ◆ Introduction to Cybersecurity
- ◆ Unit 1: Introduction to Cybersecurity
- ◆ Unit 2: Identity and Access Management
- ◆ Unit 3: Standards and Regulations
- ◆ Computer System Security
- ◆ Unit 1: Introduction
- ◆ Unit 2: Operating System Security
- ◆ Unit 3: Web Security
- ◆ Unit 4: Usable Security
- ◆ Security in Cloud Computing
- ◆ Unit 1: Introduction to Cloud Security
- ◆ Unit 2: Identity
- ◆ Access and Trust Management
- ◆ Unit 3: Data Security and Privacy in Cloud
- ◆ Unit 4: Infrastructure
- ◆ Virtualisation and Container Security
- ◆ Unit 5: Compliance
- ◆ Risk and Emerging Trends
- ◆ AI for Cybersecurity
- ◆ Unit 1: Overview of AI/ML with Cybersecurity Use Cases
- ◆ Unit 2: Introduction to Cybersecurity
- ◆ Unit 3: Malware Classification Using Supervised and Unsupervised Learning
- ◆ Unit 4: Time-Series Analysis and Ensemble Modelling
- ◆ Unit 5: Network Anomaly Detection
- ◆ Unit 6: Adversarial Attacks on ML Systems
- ◆ Biometric Security and Forensics
- ◆ Unit 1: Person Recognition
- ◆ Unit 2: Face Recognition
- ◆ Unit 3: Security of Biometric Systems
- ◆ Unit 4: Biometric Modalities and Evidence Collection
- ◆ Unit 5: Text and Log Forensics
- ◆ Digital Forensics
- ◆ Unit 1: Fundamentals of Computer Forensics
- ◆ Unit 2: Understanding Computing Investigations
- ◆ Unit 3: Data Acquisition and Tools
- ◆ Deep Learning
- ◆ DevSecOps
- ◆ Unit 1: Introduction to DevOps and DevSecOps
- ◆ Unit 2: CI/CD Pipeline
- ◆ Unit 3: DevSecOps Foundations
- ◆ Unit 4: Security Across the Software Development Lifecycle

Fee Structure

Fee heads	Year 1	Year 2	Total
Program Fee	₹ 177,000	₹ 177,000	₹ 354,000
Total	₹ 177,000	₹ 177,000	₹ 354,000