MIT Syllabus

Networks

1. Networks and Network Operation
2. Network Applications and Network Usage
3. Communication and Data Communications
4. Reliable Communication
5. Coded Communication -Introduction
6. Local Area Networks
7. Packet-switched Network
8. Internetworking and the Internet
9. Internet Application Software
10. Wireless Access to Networks and Wireless Networks
11. Introduction to Network Management
12. Network Management
13. Distributed Systems
14. Implementation Issues for Distributed Systems
15. The Internet as Message-Handling Network 1
16. The Internet as Message-Handling Network 2
17. Multimedia
18. The Internet as Digital Library
19. The Internet as a Market Place
20. Network Effects, Portals and Economics

Cyberlaw and Ethics

1. Computer Ethics and Why Study it
2. Philosophical Ethics
3. Professional Ethics
4. Code of Ethics and Professional Conduct
5. Privacy
6. Property Rights and Software
7. Accountability in IT

OO Programming in Java

1. Introduction
2. Java Basics
3. Selection Control Statements
4. Loop Control Statements
5. Using Classes
6. Writing Your Own Classes
7. Arrays

8. Sorting and Searching Arrays
9. Object Oriented Programming
10. Exception Handling
11. Introduction to GUI Programming with Swing

Research Methods

1. Introduction to IT Research
2. Ethics in Research
3. Conducting a Literature Review
4. Finding a Research Question/Goal
5. Project Management
6. Research Proposals
7. Experimentation
8. Prototypes
9. Case Studies
10. Surveys
11. Conducting Observations
12. Testing in IT Research
13. Modelling
14. Usability Analysis
15. Introduction to Statistics
16. The Writing Process
17. Research Presentations
18. The Masters/PhD Thesis

Web programming

1. Basic Concepts
2. HTML 1: Basics
3. Web Design
4. HTML 2: Tables
5. Internet Commerce
6. HTML 3: Forms
7. Network Infrastructure
8. HTML 4: Frames
9. XML
10. Style Sheets
11. Security
12. Privacy & Censorship
13. Virtual Organisation
14. JavaScript 1: Basic Scripting
15. JavaScript 2: Event Handling
16. JavaScript 3: Functions
17. JavaScript 4: Objects & Arrays

18. HTML 5: Advanced HTML
19. Web-based Applications
20. Serving Web-based Applications
21. Hot Topics

Database Systems

1. Introduction to Database Systems
2. The Relational Model in Detail
3. Introduction to SQL
4. Intermediate SQL
5. Advanced SQL
6. Physical Storage
7. Indexes
8. Declarative Constraints and Database Triggers
9. Concurrency Control
10. Backup and Recovery
11. Entity-Relationship Modelling
12. Data Normalization
13. Advanced Database Design
14. Database Security
15. Data Warehousing and Data Mining
16. Web-Database Connectivity
17. Distributed Database Systems
18. Temporal Database -Introduction
19. Object Database Systems
20. Database Administration and Tuning

HCI

1. Introduction to Design and Evaluation of Interactive Systems
2. Does HCI matter?
3. User Centred Design
4. Cognitive Psychology
5. User implications of perception and memory
6. Design guides
7. Models of the User
8. Task analysis
9. Evaluation
10. Advanced topic: CSCW

Software Engineering

1. Introduction
2. Process and Model

3. Requirements Engineering
4. An Introduction to Analysis and Design
5. Object-Oriented Analysis and Design
6. Data-Flow Diagrams
7. Design
8. Design Patterns
9. Software Testing