School of Computing and Informatics
BSc in Computer Science
Text Books 2012

Year 1

CSC 111 Introduction to Computer Systems
Core texts
- Computer organization and architecture: Designing for performance by William Stallings

Additional Reference texts
- Structured computer organization, Andrew S. Tanenbaum, Pearson Education
- Computer Systems Organization & Architecture, John Carpinelli
- Computer Systems – Design & Architecture, Vincent P. Heuring & Hary Jordan

CSC 112 Introduction to Programming
Core texts
- C- How to program – Fourth edition by H.M. Deitel and P.J. Deitel
- Programming in C and C++ by S.S. Khadare

CSC 113 Discrete Mathematics
Core texts
- Discrete Mathematics for Computer Scientists by J. Truss, Addison Wesley

Additional Reference texts
- Concrete Mathematics: A Foundation for Computer Science (2nd Edition) by Ronald L. Graham (Author), Donald E. Knuth (Author), Oren Patashnik (Author)
- Discrete Mathematics with Graph Theory by E.G. Goodaire

CSC 114 Differential & Integral Calculus
Core texts

Additional Reference texts
- Calculus by R. Smith and R. Minton
- An Introduction to Calculus by R. J. Cowen
- Pure Mathematics 1 by J. Buckhouse

CSC 121 Programming and Problem-solving
Core texts
- 

CSC 122 Database Systems
Core texts
- Connolly, Begg and strachan, Database Systems: A practical approach to design implementation and management, Addison Wesley

Additional Reference texts
- An Introduction to Database Systems, by Date, Addison Wesley
- Fundamentals of Database Systems Elmasri & Navathe Addison Wesley

CSC 123 Data Communication
Core texts
- William Stallings - Data and computer communications, Prentice Hall international, inc.
- Fred Halsal - Data communications, computer networks and open systems, Addison Wesley.

Additional Reference texts
- Andrew S. Tanenbaum – Computer Networks, Prentice Hall international, inc.
- Forouzan – Data Communications and Networking, The McGraw-Hill Companies
- Fitzgerald and Dennis - Business Data Communications and Networking
- Computer Networking and the Internet F. Halsall
- Computer Networks and Internets, with Internet applications by Douglas Comer

CSC 124 Probability & Statistics
Core texts
- Introduction to Probability by C.M. Grinstead and J. L. Snell

Additional Reference texts
- Probability and Statistics by A. Papoulis, Prentice Hall 1990 (Rasna)
- Probability and statistics, N.R. Spiegel

CSC 125 Linear Algebra
Core texts

Additional Reference texts

CSC 126 Physics for Computer Science

CCS 001 Communication Skills

CCS 009 Elements of Economics

CCS010 HIV Aids
Year 2

CSC 211 Data Structures & Algorithms

Core texts

Additional Reference texts
- Data structures and algorithms by Harowitz and Sahni (DOO)
- Data Abstraction and Structures by David Riley (DOO)
- Data Structures with ADT’s & Pascal by Stubbs and Webre (DOO)
- Data structures and algorithms in C++ by Adam Drodzek
- Data Structures and Algorithms by A.V. Aho
- Data Structures and Algorithms Analysis in C by Mark Allen Weiss
- Data structures and other objects using C++ by Main and savich
- Data Structures and Program design by R. Kruse

CSC 212 Systems Analysis & Design

Core texts

Additional Reference texts
- Practical SSADM by Phili Weaver
- Systems Analysis and Design by K.E.Kendall

CSC 213 Computer Architecture

Core texts

Additional Reference texts
- Principles of Computer Hardware Alan Clements

CSC 214 Digital Electronics

Core texts
- Digital Logic and Computer Design - M. Morris Mano

Additional Reference texts
Digital Systems - from gates to microprocessors. Sanjay K. Bose
Design of Logic systems. Douglas Lewin, publisher: Van Nostrand
Electronic Logic Circuits. J. R. Gibson, publisher: Arnold
Introduction to Logic, Irving M. Copi, Carl Cohen
Logic and Computer Design Fundamentals Mano Morris
Modern Digital Electronics by R.P. Jain
Digital design by Morris Mano

CSC 215 Introduction to Artificial Intelligence
Core texts
- Artificial Intelligence. Structures and strategies for complex problem solving. By Luger George F.
Additional Reference texts
- Artificial Intelligence by Winston
- Automated Planning: Theory and Practice by Ghallab, Nau, Traverso
- Intelligent scheduling by Zweben
- An Introduction to Genetic Algorithms by Mitchell
- Automated Theorem Proving by Newborn, Newborn
- Computer Vision: A Modern Approach by Forsyth, Ponce
- Prolog Programming for AI by Bratko
- An Introduction to AI Robotics by Murphy
- Machine Learning by Mitchell
- Reinforcement Learning: An Introduction by Sutton, Barto
- An Introduction to Support Vector Machines by Cristianini, Shawe-Taylor

CSC 216 Assembly Language Programming
Core texts
- Assembly Language: Step by step: Programming with DOS and Linux(With CD-ROM) Jeff Duntemann John Wiley and sons
- The Intel Microprocessors 8086/8088, 80186/80188, 80286, 80386, 80486, Pentium and Pentium Pro Processor Architecture, Programming, and Inter-facing Barry B. Brey Prentice Hall
Additional Reference texts

CSC217 Web Programming and Applications

CSC 221 Object-Oriented Analysis Design and Programming
Core texts
- Timothy A. Budd; Introduction to Object Oriented Programming, Second Edition
Additional Reference texts
- C++ How to program by Deitel
• Java How to program by Deitel
• Object Technology David Taylor
• Object oriented programing with C++ E. Belagurusamy

CSC 222 Automata Theory
Core texts
• Introduction to Languages & Theory of Computation John Martin

Additional Reference texts
• Introduction to computer Theory, by Daniel I. A. Cohen

CSC 223 Operating Systems
Core texts

Additional Reference texts
• Operating System Concepts Seventh Edition by Avi Silberschatz
• Operating systems: Internals and design Principles by W. Stallings

CSC 224 Software Engineering
Core texts
• Pressman, Software Engineering – A practitioner’s approach, McGraw Hill

Additional Reference texts
• Sommerville, Software Engineering, Addison Wesley
• Software Engineering Fundamentals Ali Behforooz & Frederick Hudson

CSC 225 Computer Networkings
Core texts
• Computer networks, Andrew S. Tanenbaum Fourth Edition, Pearson Education

Additional Reference texts
• Data and computer Communications, William stallings, Pearson Education
• Data communications, Computer networks and Open systems, Fred Halsall, Addison Wesley
• Computer Networking and the Internet F. Halsall
• Computer Networks and Internets with Internet applications by Douglas Comer
• Networking and data Communications Laboratory manual

CSC 226 Computer Systems And Networking Laboratory
Core texts

Additional Reference texts

CSC227 Programming Project

Year 3

CSC 311 Analysis and Design of Algorithms
Core texts

CSC 312 Artificial Intelligence Programming
Core texts
• Prolog Programming for Artificial Intelligence Bratko, I: Addison Wesley, 1990
• Programming in prolog Clocksin, W.F. and Mellish, C.S. Springer-Verlag
• Programming in Prolog: Using the ISO Standard by William F. Clocksin and Christopher S. Mellish

Additional Reference texts

CSC 313 Foundation of Human Computer Interaction
Core texts

Additional Reference texts
• Designing Interactive Systems: People, Activities, Contexts, Technologies, Benyon D., Turner P., & Turner S., Addison-Wesley, 2005
• Human Computer Interaction, by Jenny Preece et al.
• Human-Computer Interaction in the new Millennium John M. Carroll

CSC 314 Computer Graphics
Core texts
• Computer Graphics by Donald Hearn
Additional Reference texts

- Principles of Interactive Computer Graphics by William N. Newman
- Introduction to Computer Graphics by N. KrishnaMurthy
- Digital Image Processing by R.C. Gonzalez

CSC 315 Distributed Systems
Core texts
- Distributed Systems principles and paradigms by A.S Tanenbaum & Steen
- Distributed Operating Systems concepts & Design by Pradeep K. Sinha
Additional Reference texts
- Distributed Systems For System Architects by Paulo Veríssimo and Luís Rodrigues
- Distributed and Parallel Computing By Hesham El-Rezini and Ted G. Lewis 1997
- Distributed Systems, A.S. Tanenabum
- Distributed Computing: Fundamentals, Simulations, and Advanced Topics (Wiley Series on Parallel and Distributed Computing) by Hagit Attiya and Jennifer Welch 2004

CSC 316 Introduction to Organizations & Management
Core texts

Additional Reference texts

CSC 321 ICT Project Management

CSC 322 Network and Distributed Programming
Core texts
- UNIX Network Programming Volume 1: The Sockets Networking API by W.R. Stevens
- UNIX Network Programming Volume 2: Interprocess communication by W.R. Stevens

Additional Reference texts

CSC 323 Machine Learning

CSC 324 User-Centred Development and Evaluation

CSC 325 Management Information Systems
Core texts
- Management Information Systems G.B. Davis & M.H. Olson; McGraw Hill

Additional Reference texts
- Management Information Systems T. Lucey ; Letts Educational
- Principles of Information Systems for Management; N. Ahituv & S. Neumann(AJR)
• Essentials of Management Information Systems K.C Laudon
• Management Information Systems, by Effy Oz.

**CSC 326 Compiler Construction**

Core texts
• Compilers: Principles, Techniques and Tools by Alfred V. Aho
• Compiler Design by Santanu chattopadhyay

Additional Reference texts

**Year 4**

**CSC 411 Computer Network Security**

Core texts

Additional Reference texts
• Cryptography and Network Security: Principles and Practice W. Stallings
• Handbook of Applied Cryptography (Discrete Mathematics and Its Applications) by Alfred Menezes, Paul van Oorschot, and Scott Vanstone
• Introduction to Modern Cryptography (Chapman & Hall/Crc Cryptography and Network Security Series) by Jonathan Katz and Yehuda Lindell
• Security in Computing C. Pfleeger and Shari L. Pfleeger Prentice Hall International
• Network security, private communication in a public world

**CSC 412 Knowledge-based Systems**

Core texts

Additional Reference texts
• Intelligent Knowledge Based Systems, John Self,
• Artificial Neural Networks, B. Yegnanarayana
• Artificial Intelligence: A new synthesis, Nils J Nilson
• Introduction to Knowledge Management

**CSC 413 Principles of Business Management and Entrepreneurship**

Core texts

**CSC 414 ICT and Society**
Core texts

CSC 416 Computer Systems Project

Electives

Old Syllabus
ICS 411 Computer Systems Project

ICS 413 Network Systems Security

Core texts

Additional Reference texts
- Cryptography and Network Security: Principles and Practice W. Stallings
- Handbook of Applied Cryptography (Discrete Mathematics and Its Applications) by Alfred Menezes, Paul van Oorschot, and Scott Vanstone
- Introduction to Modern Cryptography (Chapman & Hall/Crc Cryptography and Network Security Series) by Jonathan Katz and Yehuda Lindell
- Security in Computing C. Pfleeger and Shari L. Pfleeger Prentice Hall International
- Network security, private communication in a public world

ICS 415 Compiler Construction

Core texts
- Compilers: Principles, Techniques and Tools by Alfred V. Aho
- Compiler Design by Santanu chattopadhyay

Additional Reference texts

ICS 417 Information Systems and Society

ICS 434 Distributed Multimedia Systems

Core texts
- Communication and Computing for Distributed Multimedia Systems by Guojun Lu

Additional Reference texts
- Interactive Distributed Multimedia Systems and Telecommunication Services by Scholten, Hans; Sinderen, Marten J. van
- Video Codec Design: Developing Image and Video Compression Systems by Iain Richardson
- Multimedia communication systems: Techniques standards and Network

ICS 435: Distributed Databases
ICS 441 Knowledge Engineering and Society

Core texts

Additional Reference texts

ICS 462 Information Systems Strategy and Implementation

Core texts

Additional Reference texts
- Strategic Management & Information System  Wendy Robson
- Strategic Management  Pearce & Robinson

ICS 463: Information Systems Audit