

B.Eng. (Computer Engineering)

Year 4

SC402/CPE404 ADVANCED MICROPROCESSOR SYSTEMS

Prescribed Text

Intel® 64 and IA-32 Architectures Software Developer's Manual, Volume 1: Basic Architecture

Other References

Intel® 64 and IA-32 Architectures Software Developer's Manual, Volumes 2A & 2B: Instruction Set Reference

The Intel® 64 and IA-32 Architectures Software Developer's Manual, Volumes 3A & 3B: System Programming Guide

SC403/CSC406/CPE409 COMPUTER ARCHITECTURE

Prescribed Text & Other References

Andrew S. Tanenbaum, *Structured Computer Organization*, 5th Edition, Prentice Hall
(Call no: QA76.6.T164 2006)

Carl Hamacher, Zvonko Vranesic and Safwat Zaky, *Computer Organization*, 5th Edition, Mc Graw Hill
(QA76.9.C643H198)

Patterson & Hennessey, *Computer organization and design*, Morgan Kaufmann, 4th Edition 2009
(QA76.9.C643P317 2009)

SC436/CSC422/CPE422 NEURAL NETWORK

Prescribed Text

Jacek M. Zurada , *Introduction to Artificial Neural Systems*, West Publishing, 1992.(Call no: QA76.87.Z96)

Martin T. Hagan, Howard B. Demuth & Mark Beale Martin/Hagan, *Neural Network Design* University of Colorado, 1996 (QA76.87.H141)

Igor Aleksander and Helen Morton, *Introduction to Neural Computing*, International Thomson Computer Press, 1995 (QA76.87.A366 1995)

Other References

Robert J. Schalkoff , *Artificial Neural Networks* , McGraw-Hill, 1997 (QA76.87.S297)

Chin-Teng Lin and Goerge Lee, *Neural Fuzzy Systems* , Prentice Hall, 1996.(TJ217.25.L735)

Laurene Fausett, *Fundamentals of Neural Networks*, Prentice Hall, 1994.(QA76.87.F267)

Simon Haykin, *Neural Networks*, Macmillan, 1999.(QA76.87.H419 1999)

SC401/CPE426 REAL TIME SYSTEM

Prescribed Text

Alan Burns and Andy Wellings, *Real-Time Systems and Programming Languages*, Addison Wesley, 3rd Edition 2001.(Call no: QA76.54.B967 2001)

C M Krishna and Kang G Shin, *Real-Time Systems*, McGraw Hill, 1997 (QA76.54.K92)

Leedham, C. G. (C. Graham), *Embedded real-time systems : introductory concepts and tools*, Pearson/Prentice Hall, 3rd edition, 2007 (QA76.54.L484 2007)

SC441/CSC402/CPE402 ADVANCED COMPUTER NETWORKS

Prescribed Text

James F. Kurose, Keith W. Ross, *Computer Networking: A Top-Down Approach Featuring the Internet*, Addison Wesley, 5th Edition 2010 (Call no: TK5105.875.I57K96 2010)

William Stallings, *Wireless Communications & Networks*, Prentice Hall, 2nd Edition 2005 (TK5103.2.S782 2005)

Other References

Jon Crowcroft, Mark Handley and Ian Wakeman, *Internetworking Multimedia*, Morgan Kaufmann, 1999 (TK5105.5.C953)

S. Keshav, *An Engineering Approach to Computer Networking: ATM Networks, the Internet, and the Telephone Network*, Addison-Wesley, 1997 (TK5105.5.K42)

W. Stallings, *High-Speed Networks and Internets: Performance and Quality of Service*, Prentice Hall, 2002 (TK5105.585.S782)

W. Stallings, *Wireless Communications and Networks*, Prentice Hall, 2nd Edition 2005 (TK5103.2.S782 2005)

SC444/CSC409/CPE413 CRYPTOGRAPHY AND NETWORK SECURITY

Prescribed Text

Stallings, W., *Cryptography and Network Security: Principles and Practices*, Prentice Hall, 4th Edition 2006. (Call no: TK5105.59.S782C 2006)

Kaufman, C., Perlman, R. and Speciner, M., *Network Security: Private Communication in a Public World*, Prentice Hall, 2nd Edition 2002 (TK5105.59.K21 2002)

Other References

Mao, W., *Modern Cryptography Theory and Practice*, Prentice Hall, 2004 (QA76.9.A25M296)

Schneier, B., *Applied Cryptography: Protocols, Algorithms, and Source Code in C*, Wiley, 2nd Edition, 1996 (QA76.9.A25S359 1996)

Anderson, R., *Security Engineering: A Guide to Building Dependable Distributed Systems*, Wiley, 2nd Edition 2008 (QA76.9.A25A549 2008)

SC451/CPE424

INFORMATION THEORY AND CODING

Prescribed Text

E. M-K. Lai and A. S. Madhukumar, *Principles of Information Theory and Coding*, Mc Graw Hill, Singapore, 2005 (Call no: Q360.L185)

Other References

Information Theory:

M. Cover and J.A. Thomas, *Elements of Information Theory*, John Wiley and Sons, 2006 (Q360.C873 2006)

D. J. C. MacKay, *Information Theory, Inference and learning Algorithms*, Cambridge University Press, 2003.(Q360.M153)

R.W. Yeung, *A First Course in Information Theory*, Kluwer Publishers, 2002 (Q360.Y48)

R.G. Gallager, *Information Theory and Reliable Communication*, John Wiley and Sons 1968 (Q360.G162)

S. Goldman, *Information Theory*, Dover Publications 2005 (Q360.G619)

D. Hankerson, G. A. Harris and P. D. Johnson, *Introduction to Information Theory and Data Compression*, Chapman and Hall 2003 (Q360.H241)

R. J. McEliece, *The Theory of Information and Coding*, Cambridge University Press, 2nd Edition 2002 (Q360.M133 2002)

Error Control Coding:

S. Lin and D. J. Costello, *Error Control Codes: Fundamentals and Applications*, Prentice-Hall, New Jersey, 2004 (QA268.L735 2004)

S. B. Wicker, *Error Control Systems for Digital Communication and Storage*, Prentice-Hall, New Jersey, 1995 (TK5103.7.W636)

R. B. Wells, *Applied Coding and Information Theory for Engineers*, Prentice-Hall, New Jersey, 1999 (TK5102.92.W455)

R. Bose, *Information Theory, Coding and Cryptography*, Mc Graw Hill, Boston, 2003(QA268.B743)

M. Bossert, *Channel Coding for Telecommunications*, John Wiley, New York, 2003 (TK5102.92.B745)

M. Y. Rhee, *Error Correcting Coding Theory*, Mc Graw Hill, Boston, 1989 (TK5102.5.R469)

I. S. Reed and X. Chen, *Error Control Coding for Data Networks*, Kluwer Academic Publishers, Boston, 1999 (TK5102.96.R324)

SC440/CSC401/CPE401 ADVANCED ALGORITHMS

Other References

Thomas H. Cormen, Charles E. Leiserson and Ronald L. Rivest, *Introduction to Algorithms*, McGraw-Hill (Call no: QA76.6.C811 2001)

Anany Levitin, *Introduction to the Design and Analysis of Algorithms*, Addison Wesley, 2003 (QA76.9.A43L666 2007)

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Sara Baase & Allen Van Gelder, *Computer Algorithms*, Addison Wesley, 3rd Edition 2000 (QA76.6.B111 2000)

David Harel, *Algorithmics: The Spirit of Computing*, Addison Wesley, 3rd Edition (QA76.9.A43H275 2004)

SC433/CSC301/CPE425 PROGRAMMING LANGUAGES

Louden, K.C., *Programming Languages: Principles and Practice*, Thomson – Course Technology, 2nd Edition 2003. (Call no: QA76.7.L886)

Sebesta, R., *Concepts of Programming Languages*, Addison-Wesley, 9th Edition 2010 (QA76.7.S443 2010)

Dershem, H. L. and M. J. Jipping., *Programming Languages: Structures and Models*. Wadsworth Publishing Co., 2nd Edition 1995 (QA76.7.D438 1995)

Deitel H. M. et al. *C# How to Program*, Prentice-Hall, 2002 (QA76.73.C154C111C)

SC448/CSC417/CPE419 INTRODUCTORY BIOINFORMATICS

Prescribed Text

Dan E. Krane and Michael L. Rayme, *Fundamental Concepts of Bioinformatics*, Benjamin Cummings, 2003 (Call no: QH324.2.K89)

Pevsner, Jonathan, *Bioinformatics and Functional Genomics*, Wiley.(QH441.2.P514 2009)

SC208 / CSC204 / CPE411

COMPUTER GRAPHICS / COMPUTER GRAPHICS IN DESIGN

Prescribed Textbook

Alexei Sourin, *Computer Graphics: From A Small Formula to Cyberworlds*, Pearson Prentice Hall, 2nd edition, 2006. (Call no: T385.S724C 2006)

SC436/CSC422/CPE422

NEURAL NETWORK

Prescribed Text

Jacek M. Zurada , *Introduction to Artificial Neural Systems*, West Publishing, 1992.(Call no: QA76.87.Z96)

Martin T. Hagan, Howard B. Demuth & Mark Beale Martin/Hagan, *Neural Network Design* University of Colorado, 1996 (QA76.87.H141)

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Simon Haykin, *Neural Networks* , Macmillan, 1999.(QA76.87.H419 1999)

SC441/CSC402/CPE402

ADVANCED COMPUTER NETWORKS

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James F. Kurose, Keith W. Ross, *Computer Networking: A Top-Down Approach Featuring the Internet*, Addison Wesley, 5th Edition 2010 (Call no: TK5105.875.I57K96 2010)

William Stallings, *Wireless Communications & Networks*, Prentice Hall, 2nd Edition 2005 (TK5103.2.S782 2005)

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SC403/CSC406/CPE409

COMPUTER ARCHITECTURE

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(Call no: QA76.6.T164 2006)

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(QA76.9.C643H198)

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(QA76.9.C643P317 2009)

SC431/CSC423/CPE423

PARALLEL PROCESSING

Prescribed Text

Barry Wilkinson and Michael Allen, *Parallel Programming: Techniques and Applications using Networked Workstations and Parallel Computers*, Prentice Hall PTR, 2nd Edition 2004 (Call no: QA76.642.W686 2005)

Michael J. Quinn., *Parallel programming in C with MPI and OpenMP*, McGraw Hill 2004 (QA76.73.C15Q7)

Other References

A.Grama, A. Gupta, G. Karypis and V. Kumar, *Introduction to Parallel Computing* Addison Wesley, 2nd Edition 2002 (QA76.58.I61ITP)

Shameem Akhter and Jason Roberts, *Multi-Core Programming - Increasing Performance through Software Multi-threading*, Intel Corporation 2006 (QA76.642.A315)

T. Mattson, B. Sanders, B. Massingill, *Patterns for Parallel Programming*, Pearson 2004 (QA76.642.M444)

SC430/CPE406/CSC304

ARTIFICIAL INTELLIGENT/AI AND INTELLIGENT SYSTEMS

Prescribed Text

S. Russel and P. Norvig, *Artificial Intelligence: A Modern Approach*, Prentice-Hall, 2nd Edition 2003.
(Call no: Q335.R967A)

Other References

G.F. Luger and W.A. Stubblefield, *Artificial Intelligence: Structures and Strategies for Complex Problem Solving*, Addison-Wesley, 6th Edition 2009 (Q335.L951)

D. Poole, A. Mackworth, and R. Goebel, *Computational Intelligence: A Logical Approach*, Oxford University Press, 1st Edition 1998 (Q335.P822)

N.J. Nilsson, *Artificial Intelligence: A New Synthesis*. Morgan Kauffman Publishers, 2nd Edition 1998 (Q335.N712A)

Th. Dean, J. Allen, and Y. Aloimonos, *Artificial Intelligence: Theory and Practice*, Addison-Wesley, 1st Edition 1995 (Q335.D282)

P.H. Winston, *Artificial Intelligence*, Addison-Wesley, Reading, Massachusetts, 3rd Edition 1993 (Q335.W783 1992)

B. Coppin, *Artificial Intelligence Illuminated*, Jones and Bartlett, 1st Edition 2004 (Q335.C785)

CPE184 / CSC184

HUMAN RESOURCE MANAGEMENT & ENTREPRENEURSHIP

Prescribed Textbook

Gary Dessler, *Management: Principles and Practices for Tomorrow's Leaders*, Prentice Hall, 3rd Edition, 2004. (Call no: HD31.D475MP)

Stephen P. Robbins, Mary Coulter, *Management*, Prentice Hall, 10th edition, 2009 (HD31.R636 2009)

Marc J. Dollinger, *Entrepreneurship: Strategies and Resources*, Prentice Hall, 3rd edition, 2003 (HD62.5.D665 2003)

Donald F. Kuratko, Richard M. Hodgetts, *Entrepreneurship: Theory, Process, Practice*, South-Western, 8th edition, 2009. (HB615.K96 2009)

Tan Chwee Huat, *Employment relations in Singapore*, Prentice Hall, 5th edition, 2007. (HD8700.67.T161 2007)