

**THE UNIVERSITY OF THE WEST INDIES
CAVE HILL CAMPUS**

Department of Computer Science, Mathematics & Physics

BOOKLIST 2021-2022

AUTHOR(S)

TITLE/PUBLISHER/EDITION

COMPUTER SCIENCE

**COMP0001 Preliminary Computer Science 1 &
COMP0002 – Preliminary Computer Science II**

Required

Heathcote, P.

A Level Computing

London Letts

Latest Edition

COMP1170 Entrepreneurship for Computer Science

Required

See Course Lecturer

**COMP1180 Mathematics for Computer Science &
COMP2210 Mathematics for Computer Science II**

Required

Rosen, Kenneth

Discrete Mathematics and Its Applications

Mc Graw Hill Education

8th Edition

COMP1205 Computing I

Required

Dietel, Harvey M.

C++ How to Program

10th Edition Paperback – January 1, 2017

COMP1210 Computing II

Required

See Course Lecturer

COMP1215 UNIX

Required

See Course Lecturer

Recommended

Quigley, Ellie UNIX Shelle by Example
Prentice Hall PTR
4th Edition

COMP2210 Mathematics for Computer Science II

Required

See Course Lecturer

COMP2220 Computer System Architecture

Required

Stallings, William **Computer Organizations and Architecture**
Prentice-Hall
Latest Edition

Recommended

Hamacher, V., Computer Organization
Vranesic, Z. & Zaky, S. McGraw Hill
Latest Edition

COMP2225 Software Engineering

Required

Sommerville, Ian **Software Engineering**
Pearson USA
Latest Edition

COMP2232 Object Oriented Programming Concepts

Required

Savitch, Walter Absolute Java
Addison Wesley Publishing
3rd Edition or Latest

COMP2235 Networks I, COMP3360 Networks II, & COMP3365 Networks III

Required

Tanenbaum, Andrew S. **Computer Networks**
& Wetherall, David J. Prentice Hall
5th Edition or latest
ISBN-10: 9332518742, ISBN-13: 978-8131770221

Forouzan, Behrouz **Data Communications and Networking**
McGraw-Hill
5th Edition or Latest
ISBN-10: 0073376221, ISBN-13: 978-0073376226

COMP2245 Web Development Concepts, Tools and Practices

Required

Welling, Luka & PHP and MySQL Web Development
Thomson, Laura Addison-Wesley
4th Edition or Latest

COMP2410 Computing in the Digital Age

Required

See Course Lecturer

Recommended

Leacock, C; **Research Methods for Inexperienced Researchers**
Warrican, S.; & **Guidelines for Investigating the Social World**
Rose, G. ISBN-10: 9766378835, ISBN-13:978-9766378837
Ian Randle Publishers
2014 or Latest I

COMP2415 Information Technology Engineering

Required

Fox, Richard

**Information Technology: An Introduction for Today's
Digital World**

Chapman and Hall/CRC

2013 or Latest ISBN-10: 1466568283,

ISBN-13: 978-1466568280

COMP2611 Data Structures

Required

Stallings, William

Computer Organizations and Architecture

Prentice-Hall Publishing

Latest Edition

Recommended

Hamacher, V .

Computer Organizations

Vranesic, Z., & Zaky, S.

McGraw Hill Publishing

COMP3310 Algorithms

Required

Levitin, A.

Introduction to the Design & Analysis of Algorithms

ISBN 0-321-358287

Addison-Wesley

Latest Edition

COMP3320 Design Principles of Operating Systems

Required

Silberschatz, Gilbert
& Gagne

Operating Systems Concepts

0130319996

Addison-Wesley

Latest Edition

Recommendation

Tanebaum, A.

Modern Operating Systems

Prentice-Hall

Latest Edition

COMP3330 Database Management Systems I

Required

See Course Lecturer

Recommended

Rob & Coronel

Database Systems Design Implementation & Management
Course Technology-Thomson Learning
5th Edition

COMP3370 Software Engineering on a Large Scale

Required

See Course Lecturer

Highly Recommended

Sommerville, Ian

Software Engineering
Addison-Wesley
Latest Edition

COMP3375 Software Testing & Quality

Required

Lawrence, Richard;
& Rayner, Raul

**Behavior-Driven Development with Cucumber: Better
Collaboration for Better Software**
June 21, 2019

Gundecha, Unmesh

Selenium Testing Tools Cookbook
2nd Edition

Desikan, Srinivasan **Software Testing: Principles and Practices**

Gopalaswamy, Ramesh, 1st Edition, Kindle Edition

COMP3385 Framework Design for Advanced Web Development

Required

Welling, Luke &
Rhomson, Laura

PHP and MySQL Web Development
Addison-Wesley
4th Edition or Latest

COMP3412 Scalable Enterprise Web Applications

Required

See Course Lecturer

COMP3415 Database Management Systems II

Required

See Course Lecturer

COMP3420 Computer Graphics

Required

Guha, Sumanta

Computer Graphics Through OpenGL From Theory
to Experiments
Pearson Publishing
Latest Edition

Wright, Sellers
& Haemel

OpenGL SuperBible Comprehensive Tutorial and
Reference
Addison-Wesley Professional
4th Edition or Latest

Recommended

Shreiner, Dave,
Woo, Mason, &
Neider, Jackie

OpenGL(R) Programming Guide: The
Official Guide to Learning OpenGL(R)
Addison-Wesley Professional Version 2.1
7th Edition or Latest

COMP3435 User Interface Design

Required

See Course Lecturer

COMP3440 E-Commerce

Required

Schneider, Gary P.

Electronic Commerce

Thompson Course Technology

COMP3450 Fundamentals of Artificial Intelligence

Required

Russell, Stuart,
& Norvig, Peter

Artificial Intelligence: A Modern Approach

Pearson

3rd Edition or Latest

ISBN-10: 0136042597, ISBN-13: 978-0136042594

SWEN1000 An Introduction to Computing I

Required

See Course Lecturer

SWEN1001 An Introduction to Object Oriented Programming

Required

See Course Lecturer

SWEN1002 Computing in Society

Required

See Course Lecturer

SWEN1003 Current and Future Trends in Computing for Software Engineers

Required

See Course Lecturer

SWEN1004 Mathematics for Software Engineering
Required

See Course Lecturer

SWEN1005 Mobile Web Programming
Required

See Course Lecturer

SWEN1006 Research Methods for Software Engineers
Required

See Course Lecturer

SWEN1007 Software Engineering Essentials
Required

See Course Lecturer

SWEN1008 Technical Writing for Software Engineers
Required

See Course Lecturer

SWEN1009 An Introduction to Computing II
Required

See Course Lecturer

SWEN2000 An Introduction to Requirements Engineering
Required

Robertson, Suzzane &
James Robertson

**Mastering the Requirements Process: Getting
Right**

Addison-Wesley, 2012

SWEN2001 An Introduction to Software Engineering

Required

See Course Lecturer

SWEN2002 An Introduction to the Analysis of Algorithms

Required

Anany Levitin

Introduction to the Design and Analysis of Algorithms

Pearson

3rd Edition

SWEN2003 Computer Networking Security

Required

Kurose, J. F., &
Ross, K. W.

2012 Computer Networking: A Top-Down Approach

Addison Wesley,

6/E, 864pp, paper, ISBN-13:978-0132856201

SWEN2004 Computer Organization

Required

Null, L., Lobur, J.

**2012. The Essentials of Computer Organization and
Architecture**

3rd Edition, Jones and Bartlett Publishers

SWEN2005 Database Systems

Required

See Course Lecturer

SWEN2006 Discrete Mathematics for Software Engineers

Required

Johnsonbaugh, Richard

(2009) Discrete Mathematics

Prentice Hall

7th Edition

SWEN2007 Object Oriented Design and Implementation
Required

Sommerville, I.

(2010) "Software Engineering"

Addison Wesley

9/E, 792pp, paper, ISBN-13: 978- 0137035151

AUTHOR(S)

TITLE/PUBLISHER/EDITION

MATHEMATICS

MATH0101 Preliminary Mathematics I & MATH0102 - Preliminary Mathematics II

Required

Pure Mathematics 1: 0859500926

Stanley Thornes, UK

Latest Edition

Chandler, S.

Pure Mathematics 2: 0859500977

Nelson Thorne

Wiseman, Gary

Introducing Pure Mathematics

Oxford University Press

Stanley Thornes, UK

MATH1141 Introductory Linear Algebra & Analytical Geometry

Required

Linear Algebra with Applications

Pearson

9th Edition ISBN 978-0321962218

MATH1152 Sets and Number Systems

Required

Feldman, N

Introduction to Advanced Mathematics

Prentice Hall

2nd Edition

Lipschultz, S

Schaum's Outline of Set Theory and Related Topics

McGraw-Hill

2nd Edition ISBN 978-0070381599

MATH1190 Calculus A & MATH1195 Calculus B

Required

Stewart, James

Calculus

Cengage Learning

8th Edition ISBN # 978-1285740621

Stewart, James

**Student Solutions Manual (Chapters 1-11)
for Stewart's Single Variable Calculus**
Brooks and Cole/Cengage Learning
7th Edition ISBN # 978-0840049490

MATH1230 Introduction to Applied Statistics

Required

Mendenhall, W
Beaver, R.J., and
Beaver, B.M.

Introduction to Probability and Statistics
ISBN 978-0495389538
Thompson Publishing
Latest Edition

Recommended

Speigel, M.
and Stephens, L.

Schaum's Outline of Statistics
ISBN 978-0071822527
McGraw-Hill
Latest Edition

MATH1235 Python Programming & Mathematical Software

Required

Bard, G.V.

Sage for Undergraduates
American Mathematical Society
1st Edition (2015) ISBN 978-0883857847

Recommended

Venema, G.A.

Exploring Advanced Euclidean Geometry with GeoGebra,
The Mathematical Association of America;
1st Edition (2013), ISBN 978-0883857847.

MATH2310 Abstract Algebra I

Required

Gilbert & Gilbert

Elements of Modern Algebra
Cengage Learning
Latest Edition

Recommended

Lawrence & Rosebrush Set Theory for Mathematics

MATH2321 Real Analysis I & MATH3550 Real Analysis II

Required

Abbott, Stephen **Understanding Analysis**
Springer Publishing
Latest Edition

Recommended

Rudin, W. Principles of Mathematical Analysis
McGraw Hill Publishing
Latest Edition

Wade, W.R. An Introduction to Analysis
Prentice Hall Publishing
Latest Edition

MATH2315 Linear Algebra I

Required

Nicholson **Elementary Linear Algebra**
McGraw Hill Publishing
Latest Edition

Recommended

Lipschutz, S. Schaum's Linear Algebra
McGraw Hill Publishing
Latest Edition

MATH2305 Differential Equation I

Required

Tenenbaum, M. A **Ordinary Differential Equations**
Dover Publishing
Latest Edition

Recommended

Boyce & Dipyrima **Elementary Differential Equations and Boundary Value Problems**
Wiley Publishing
7th Edition

MATH2304 Multivariable Calculus

Required

Stewart, James **Calculus**
ISBN 978-1285740621
Cengage Learning Publishing
Latest Edition

Stewart, James **Student Solutions Manual (Chapters 1-11)
for Stewart's Single Variable Calculus**
ISBN 978-0840049490
Brooks and Cole/Cengage Learning
Latest Edition

Recommended

Anderson, T.W. An Introduction to Multivariate Statistical Analysis
Wiley 2003
Latest Edition

MATH2330 Probability Theory I

Required

Ross, Sheldon **A First Course in Probability**
ISBN-10: 013603313x
ISBN-13: 978-0136033134
Prentice Hall Publishing
Latest Edition

Zuur, Alain,
Ieno, Elena N., **A Beginner's Guide to R (Use R')**
ISBN 978-0387938363
Springer Publishing
Latest Edition

Recommended

Hogg, R. &
Craig, A. Introduction to Mathematical Statistics
Mcmillian Publishing
Latest Edition

MATH2335 Statistics I

Required

Hogg, R & Craig, A. **Introduction to Mathematical Statistics**
McKean, Joseph W. Mcmillian Publishing

Recommended

Rice, John A. **Mathematical Statistics & Data Analysis**
Duxbury Press
Latest Edition

MATH3543 Abstract Algebra II

Required

Gilbert & Gilbert **Elements of Modern Algebra**
Cengage Learning Publishing
Latest Edition Paper

Recommended

Baumsig, C.B. &
Chandler, B. Group Theory
McGraw Hill Publishing
Latest Edition Paper

Herstein, I.N. Abstract Algebra
Macmillian Publishing
Latest Edition Paper

MATH3545 Linear Algebra II

Required

Shapiro, H. **Linear Algebra and Matrices**
ISBN 978-1470418526
American Mathematical Society

Recommended

Friedland, S. Linear Algebra and Matrices
ISBN978-1611975130
Society for Industrial and Applied Mathematics

MATH3555 Complex Variables

Required

Staff, E.B., & **Fundamentals of Complex Analysis for**
Snider, A.D. **Mathematics, Science and Engineering**
0139078746
Prentice-Hall/ Pearson USA
Latest Edition Paper

Recommended

Dettman, J.W. Applied Complex Variables
Dover Publishing
Latest Edition Paper

Stewart, I., & Complex Analysis
Tall, D. Cambridge Publishing
Latest Edition Paper

MATH3575 Topics in Discrete and Computational Geometry

Required

Devadoss, S. L., & **Discrete and Computational Geometry**
O'Rourke, J. ISBN 978-0691145532
Princeton Publishing
Latest Edition

AUTHOR(S)

TITLE/PUBLISHER/EDITION

ELECTRONICS

ELET1200 Basic Circuit Analysis

Required

Boylestad, R.L. & Nashelsky, L. **Electronic Devices & Circuit Theory (2013)**
ISBN – 13:978-0132622264
Prentice-Hall/Pearson USA
11th Edition

ELET1210 Digital Electronics I

Required

Mano, M. **Digital Design**
0131462121
Prentice Hall/Pearson USA
Latest Edition

ELET1215 Digital Electronics II

Required

See Course Lecturer

ELET1220 Introduction to Electronics

Required

Boylestad, R.L. & Nasheisky, L. **Electronic Devices & Circuit Theory**
Prentice Hall/Pearson USA
Latest Edition

ELET2215 Microprocessor Systems I

Required

Gibbs, P.W. Using the SDK-85 Microprocessor Trainer
Author

ELET2220 - Circuit Simulation & Applications

Required

Irwin, J. David **Basic Engineering Circuit Analysis**
John Wiley & Sons, Inc.
Latest Edition

ELET2225 Discrete Component Electronics

Required

Boylestad, R.L. & **Electronic Devices & Circuit Theory**
Nasheisky, L. Prentice Hall/Pearson USA
Latest Edition

**ELET2230 Digital Communication Systems I &
ELET3235 Digital Communication Systems II**

Required

Proakis, John & **Fundamentals of Communications Systems**
Sahehi, Masoud ISBN-10: 013147136X
Prentice Hall
5th Edition Paperback

ELET2240 Sensor & Actuator Devices

Required

Pawlak, M. Andrzej **Sensors and Actuators in Mechatronics Design and
Applications**
CRC Press (2006)

Silva, W de Clarence **Sensors and Actuators Control System**
CRC Press (2006)

ELET3215 Microcontroller Technology

Required

Predko, Myke **Programming and Customizing the PIC Microcontroller**
McGraw Hill (2008)

Lovine, John **PIC Microcontroller Project Book**
McGraw Hill

ELET3220 Control Systems

Required

Dorf, Richard C., & **Modern Control Systems**
Bishop, Robert H. Pearson USA/Prentice Hall

ELET3230 Essentials of Digital Signal Processing

Required

Van de Vegte, Joyce **Fundamentals of Digital Signal Processing**
ISBN:0-13-0160706
Prentice Hall
Latest Edition

ELET3260 Advanced Microprocessors & Systems

Required

See Course Lecturer

ELET3255 Wireless Communications

Required

See Course Lecturer

AUTHOR(S)

TITLE/PUBLISHER/EDITION

PHYSICS

PHYS0070 Preliminary Physics I & PHYS0071 Preliminary Physics II

Required

Young, H.

University Physics Solutions

(Latest) edition San Francisco, CA: Pearson Addison-Wesley.

SBN-13 9780321501301.

(Digital Copy preferably)

Recommended

Giacoli, D.

2016. Physics: Principles with Applications,

Latest edition. London, UK: Pearson Prentice-Hall.

ISBN-13 9780321625927. **(Digital Copy preferably)**

PHYS1200 Physics I & PHYS1205 Physics II

Required

See Course Lecturer

PHYS1210 Physics III & PHYS1220 Physics IV

Required

See Course Lecturer

PHYS2400 Mathematical Methods in Physics

Required

Boas, Mary L.

Mathematical Methods in the Physical Science

Wiley

PHYS2410 Modern Physics

Required

Berrstein, J. et al **Modern Physics**
Pearson Education, USA

Recommended

French, A.P. Special Relativity
& Walker, J. CRC Press

PHYS2420 Advanced Physics Lab I

Required

See Course Lecturer

PHYS3420 Electromagnetic Theory I

Required

Griffiths, David **Introduction to Electrodynamics**
ISBN: 013805326X

Recommended

Longren, K. Fundamentals of Electromagnetics with MATLAB
Savor, S. & Scitech Publishing Inc
Jost, R. www.scitechpub.com

PHYS3455 Lasers and Optical Systems

Required

Hecht, E. **Optics**
Addison Wesley

PHYS3450 Fluid Mechanics

Required

See Course Lecturer

PHYS3485 Theory of Statistical Mechanics

Required

Carter, Ashley

Classical and Statistical Thermodynamics
Prentice-Hall

Recommended

Reif, Frederick

Fundamentals of Statistical & Thermal Physics
ISBN-0070518009