

THE UNIVERSITY OF THE WEST INDIES  
CAVE HILL CAMPUS

Department of Computer Science, Mathematics & Physics

BOOKLIST 2025-2026

AUTHOR(S)

TITLE/PUBLISHER/EDITION

COMPUTER SCIENCE

COMP0001 - Preliminary Computer Science I &

COMP0002 - Preliminary Computer Science II

Required

Heathcote, P.

**A Level Computing**

London Letts

Latest Edition

COMP1170 - Entrepreneurship for Computer Science

Required

Barringer, Bruce

**Entrepreneurship: Successfully Launching New Ventures**

ISBN: 0134729536/9780134729534

6th Edition

Recommended

Barringer, Bruce

**Preparing Effective Business Plans: An Entrepreneurial  
Approach**

Pearson Entrepreneurship - 2nd Edition

COMP1180 - Mathematics for Computer Science &

Required

Rosen, Kenneth

**Discrete Mathematics and Its Applications**

Mc Graw Hill Education

8th Edition

COMP1205 - Computing I

Required

Deitel, Harvey M.                    **C++ How to Program**  
10th Edition Paperback – January 1, 2017

**COMP1210 - Computing II**

Required

Deitel, Harvey M. &                **C++ How to Program**  
Deitel, Paul                            10th Edition Paperback – January 1, 2017

**COMP1215 - UNIX**

Required

See Course Lecturer

Recommended

Quigley, Ellie                        **UNIX Shells by Example**  
Prentice Hall PTR  
4<sup>th</sup> Edition

**COMP2210 - Mathematics for Computer Science II**

Required

Rosen, Kenneth                    **Discrete Mathematics and Its Applications**  
Mc Graw Hill Education  
8th Edition

**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**

Recommended

Savitch, Walter                    Absolute Java  
Addison Wesley Publishing  
Latest Edition

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

Required

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

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

**COMP2245 - Web Development Concepts, Tools and Practices**

Required

Randy Connolly &              Fundamentals of Web Development  
Ricardo Hoar                    3rd Edition or Latest

**COMP2410 - Computing in the Digital Age**

Required

See Course Lecturer

Recommended

Leacock, C;  
Warrican, S.; &  
Rose, G.

**Research Methods for Inexperienced Researchers  
Guidelines for Investigating the Social World**  
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

Nyhoff, Larry R.

**ADTs, Data Structures and Problem Solving with C++**  
Pearson  
Latest Edition  
ISBN-10: 0131409093  
ISBN-13: 978-0131409095

Recommended

Smart, Julian

**Cross-Platform GUI Programming with wxWidgets**  
Pearson  
Latest Edition  
ISBN-10: 9780131473812  
ISBN-13: 978-0131473812

**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

Tanenbaum, A.

Modern Operating Systems

Prentice-Hall

Latest Edition

**COMP3330 Database Management Systems I**

Recommended

Rob & Coronel

Database Systems Design Implementation & Management

Course Technology-Thomson Learning

11th Edition or Higher

**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 &  
Thomson, Laura                    PHP and MySQL Web Development  
Addison-Wesley  
4<sup>th</sup> Edition or Latest

**COMP3412 - Scalable Enterprise Web Applications**  
Required

Ian Gorton                    Foundations of Scalable Systems - Designing Distributed  
Architectures  
Latest Edition

**COMP3415 - Database Management Systems II**  
Required

See Course Lecturer

**COMP3420 - Computer Graphics**

Required

Gordon, Clevenger                    **Computer Graphics Programming in OpenGL with C++**  
Mercury Learning and Information  
2nd edition or Latest

Recommended

Wright, Sellers  
& Haemel

**OpenGL SuperBible Comprehensive Tutorial and Reference**

Addison-Wesley Professional  
4<sup>th</sup> Edition or Latest

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

**OpenGL(R) Programming Guide: The Official Guide to Learning OpenGL(R)**

Addison-Wesley Professional Version 2.1  
7<sup>th</sup> Edition or Latest

**COMP3435 - User Interface Design**

Recommended

Helen Sharp,  
Yvonne Rogers &  
Jenny Preece

**Interaction Design: Beyond Human Computer Interaction**

Wiley, (latest edition)

**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

Randy Connolly & Fundamentals of Web Development

Ricardo Hoar 3rd Edition or Latest

**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, Suzanne &  
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

3<sup>rd</sup> 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**

Recommended

Rob & Coronel            Database Systems Design Implementation & Management  
Course Technology-Thomson Learning  
11th Edition or Higher

**SWEN2006 - Discrete Mathematics for Software Engineers**

Required

Johnsonbaugh, Richard    **(2009) Discrete Mathematics**  
Prentice Hall  
7<sup>th</sup> 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

Bostock, L &  
Chandler, F

**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

Leon, Steven

**Linear Algebra with Applications**  
Pearson  
9<sup>th</sup> Edition ISBN 978-0321962218

MATH1152 - Sets and Number Systems

Required

Feldman, N

**Introduction to Advanced Mathematics**  
Prentice Hall  
2<sup>nd</sup> Edition

Lipschutz, S

**Schaum's Outline of Set Theory and Related Topics**  
McGraw-Hill  
2<sup>nd</sup> Edition, ISBN 978-0070381599

**MATH1190 - Calculus A & MATH1195 Calculus B**

Required

Stewart, James                      **Calculus**  
Cengage Learning  
8<sup>th</sup> Edition ISBN # 978-1285740621

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

**MATH1230 - Introduction to Applied Statistics**

Required

Mendenhall, W                      **Introduction to Probability and Statistics**  
Beaver, R.J., and                      ISBN 978-0495389538  
Beaver, B.M.                              Thompson Publishing  
Latest Edition

Recommended

Spiegel, M.                              **Schaum's Outline of Statistics**  
and Stephens, L.                      ISBN 978-0071822527  
McGraw-Hill  
Latest Edition

**MATH1235 - Python Programming & Mathematical Software**

Required

Bard, G.V.                                **Sage for Undergraduates**  
American Mathematical Society  
1<sup>st</sup> 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.

**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

**MATH2305 - Differential Equation I**

Required

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

Recommended

Boyce & Diprima                    **Elementary Differential Equations and Boundary  
Value Problems**  
Wiley Publishing  
7<sup>th</sup> Edition

**MATH2310 - Abstract Algebra I**

Required

Gilbert & Gilbert                    **Elements of Modern Algebra**  
Cengage Learning

Latest Edition

Recommended

Lawrence &  
Rosebrush

**Set Theory for Mathematics**

**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

**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

## **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**

Macmillan Publishing

Latest Edition

## **MATH2335 - Statistics I**

### Required

Hogg, R & Craig, A.  
McKean, Joseph W.

**Introduction to Mathematical Statistics**

Macmillan 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**  
Macmillan 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., &  
Snider, A.D.

**Fundamentals of Complex Analysis for  
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., &  
Tall, D.

**Complex Analysis**  
Cambridge Publishing  
Latest Edition Paper

**MATH3575 - Topics in Discrete and Computational Geometry**  
Required

Devadoss, S. L., &  
O'Rourke, J.

**Discrete and Computational Geometry**  
ISBN 978-0691145532  
Princeton Publishing  
Latest Edition

**AUTHOR(S)**

**TITLE/PUBLISHER/EDITION**

**ELECTRONICS**

**ELET1200 - Basic Circuit Analysis**

**Required**

Allan H. Robbins &  
Wilhelm C. Miller

Circuit Analysis Theory and Practice  
5th Edition

**Recommended**

Boylestad, R.L. &  
Nashelsky, L  
11<sup>th</sup> Edition

**Electronic Devices & Circuit Theory (2013)**  
**ISBN — 13:978-0132622264**

**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**

**Earl D. Gates**

Introduction to Electronics  
5th Edition

Recommended

Boylestad, R.L. &  
Nashelsky, L

**Electronic Devices & Circuit Theory (2013)**  
ISBN—13:978-0132622264  
11<sup>th</sup> 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. &  
Nashelsky, L.

**Electronic Devices & Circuit Theory**  
Prentice Hall/Pearson USA  
Latest Edition

**ELET2230 - Digital Communication Systems I &**

**ELET3235 - Digital Communication Systems II**

Required

Proakis, John &  
Sahehi, Masoud

**Fundamentals of Communications Systems**  
ISBN-10: 013147136X  
Prentice Hall  
5<sup>th</sup> 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

Giancoli, 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

See Course Lecturer

**PHYS2420 - Advanced Physics Lab I**

Required

See Course Lecturer

**PHYS3420 - Electromagnetic Theory I**

Required

Griffiths, David

**Introduction to Electrodynamics**  
ISBN: 013805326X

Recommended

Lonngren, K.,  
Savor, S. &  
Jost, R.

Fundamentals of Electromagnetics with MATLAB  
Scitech Publishing Inc.  
[www.scitechpub.com](http://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