

Macao Polytechnic University
Faculty of Applied Sciences
Bachelor of Science in Computing
Module Outline

Academic Year 2022 / 2023 Semester 1

Learning Module	Introduction to Computing		Class Code	COMP111
Pre-requisite(s)	Nil			
Medium of Instruction	English		Credit	3
Lecture Hours	45 hrs	Lab/Practice Hours	0 hrs	Total Hours 45 hrs
Instructor	Chester Wong		E-mail	chesterwong@mpu.edu.mo
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Description

This module will introduce: 1) fundamental electronic data processing concepts and associated terminologies; 2) the development of computers and computer applications; and 3) the impact of computers on society. Furthermore, peripherals of an actual computing system, CPU configuration, device interfaces and professional ethical issues in computing will be discussed.

Learning Outcomes

After completing the learning module, students will be able to:

1. Explain the concepts and associated terminologies of fundamental electronic data processing; (SM1p)
2. Identify the development of computers and the impact of computers on society; (SM1p, ET6p)
3. Explain the hardware configuration of a computer; (SM1p)
4. Apply some popular computer applications, like word processor, spreadsheet, and presentation software, in their projects; (SM1p, SM3p, EA1p, EP9p)
5. Identify the professional ethical issues in computing; (SM1p, ET1p, ET5p)
6. Achieve an understanding of how to develop a career in the information technology field. (SM1p)

Content

1. Introducing Today's Technologies: Computers, Devices, and The Web (3 hours)
 - 1.1 Today's Technology
 - 1.2 Computers, Mobile and Game Devices
 - 1.3 Data and Information
2. Connecting and Communicating Online: The Internet, Websites, and Media (3 hours)
 - 2.1 The Internet
 - 2.2 The World Wide Web
 - 2.3 Other Internet Services
3. Computers and Mobile Devices: Evaluating Options for Home and Work (3 hours)
 - 3.1 Mobile Computers and Desktops
 - 3.2 Cloud Computing
 - 3.3 Protecting Hardware
 - 3.4 Health Concerns of Using Technology
4. Programs and Apps: Productivity, Graphics, Security, and Other Tools (4.5 hours)
 - 4.1 Productivity Applications
 - 4.2 Graphics and Media Applications
 - 4.3 Personal Interest Applications
 - 4.4 Communications Applications
 - 4.5 Utility Programs
5. Digital Security, Ethics, and Privacy: Threats, Issues, and Defenses (4.5 hours)
 - 5.1 Digital Security Risks
 - 5.2 Internet and Network Attacks
 - 5.3 Unauthorized Access and Use
 - 5.4 Software Theft, Information Theft, and Hardware Theft
 - 5.5 Ethics and Society
 - 5.6 Information Privacy
6. Computing Components: Processors, Memory, the Cloud, and More (4.5 hours)
 - 6.1 Inside the Case
 - 6.2 Processors, Cloud Computing, Memory, Adapters, Buses, and Power Supply
 - 6.3 Data Representation
7. Input and Output: Extending Capabilities of Computers and Mobile Devices (3 hours)
 - 7.1 Input Devices
 - 7.2 Output Devices
 - 7.3 Assistive Technology Input and Output

8. Digital Storage: Preserving Content Locally and on the Cloud (3 hours)
 - 8.1 Hard Drives
 - 8.2 Portable Flash Memory Storage
 - 8.3 Cloud Storage and Enterprise Storage
 - 8.4 Other Types of Storage
9. Operating Systems: Managing, Coordinating, and Monitoring Resources (3 hours)
 - 9.1 Operating Systems Functions
 - 9.2 Desktop Operating Systems, UNIX, Server Operating Systems
 - 9.3 Mobile Operating Systems
10. Communicating Digital Content: Wired and Wireless Networks and Devices (4.5 hours)
 - 10.1 Communications
 - 10.2 Types of Networks
 - 10.3 Communications Software
 - 10.4 Network Communications Standards and Protocols
 - 10.5 Communications Devices and Transmission Media
11. Building Solutions: Database, System, and Application Development Tools (6 hours)
 - 11.1 Databases, Data, and Information
 - 11.2 File Processing Systems and Databases
 - 11.3 Database Management Systems
 - 11.4 Big Data and Smart City
 - 11.5 System Development
 - 11.6 Application Development Languages and Tools
12. Working in the Enterprise: Systems, Certifications, and Careers (3 hours)
 - 12.1 The Technology Industry
 - 12.2 Information Systems in the Enterprise
 - 12.3 Technology Careers

Teaching Method

Lectures, lab practice, and tutorials.

Attendance

Attendance requirements are governed by the “Academic Regulations Governing Bachelor’s Degree Programmes” of Macao Polytechnic University. Students who do not meet the attendance requirements for the module will not be permitted to sit the final or re-sit examination and shall be awarded an ‘F’ grade.

Assessment

This learning module is graded on a 100 point scale, with 100 being the highest possible score and 50 being the passing score.

Item	Description	AHEP3 LO	Percentage
1. Assignments/ Classwork	Home /Classroom-based exercises	SM1p, SM3p, ET1p, ET5p, ET6p	10%
2. Test	Knowledge assessment	SM1p, SM3p, ET1p, ET5p, ET6p	30%
3. Group Project	Knowledge assessment	SM1p, SM3p, EA1p, EP9p	10%
4. Examination	3-hour written examination	SM1p, SM3p, ET1p, ET5p, ET6p	50%
Total Percentage:			100%

Students with an overall score of less than 35 in the coursework must take the re-sit examination even if the overall score for the module is 50 or above.

Students with a score of less than 35 in the final examination must take the re-sit examination even if the overall score for the module is 50 or above.

Students with an overall final grade of less than 35 are NOT allowed to take the re-sit examination.

Teaching Material(s)

Textbook(s)

1. Vermaat, Sebok, Freund, Campbell, and Frydenberg (2018). Discovering Computers 2018 (1st ed.). Cengage Technology.

Reference

Reference book(s)

1. D. Morley, C. S. Parker. (2017). Understanding Computers: Today and Tomorrow, Comprehensive (16th ed.). Cengage Technology.
2. B. K. Williams, S. C. Sawyer. (2010). Using Information Technology: a practical introduction to computers & communications (8th ed.). McGraw-Hill.