澳門理工大學
Universidade Politécnica de Macau
Macao Polytechnic University

FACULTY OF HEALTH SCIENCES AND SPORTS
BACHELOR OF SCIENCE IN BIOMEDICAL TECHNOLOGY
(MEDICAL LABORATORY TECHNOLOGY)
LEARNING MODULE OUTLINE

Academic Year	2023-2024	Semester	1
Module Code	COMP1101		
Learning Module	Information Technology Fundamentals		
Pre-requisite(s)	Nil		
Medium of Instruction	English & Chinese		
Credits	2	Contact Hours	30
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MODULE DESCRIPTION

This is an introductory course on computers and their role in the modern world, preparing students for the challenges of tomorrow's workplace by equipping them with knowledge to engage in fast-moving information technology. It is designed to develop an in-depth understanding of why computers are essential components in the business world and society.

Topics include basic concepts of software and hardware, theory behind the computer operations, and some simple applications.

MODULE INTENDED LEARNING OUTCOMES (ILOS)

On completion of this learning module, students will be able to:

M1.	Impart a level of computer literacy appropriate for general computer use.
M2.	Explain basic local networking and Internet functions in depth.
M3.	Explain the applications of software and hardware in depth.
M4.	Explain the significance of the role of the computer in society including security, ethical and legal issues.

These ILOs aims to enable students to attain the following Programme Intended Learning Outcomes (PILOs):

PILOs	**M1**	**M2**	**M3**	**M4**
P1. To demonstrate understanding of a range of subjects, fields, principles and approaches relevant to medical laboratory technology				
P2. To demonstrate understanding of theories, analytical approaches and practices that underpin medical laboratory operations and management				
P3. To demonstrate understanding of major trends and issues related to medical laboratory technology				

P4. To apply professional knowledge and skills to analyse, interpret and solve problems, challenges and risks in medical laboratory practice				
P5. To critically appraise and interpret scientific and clinical literature and apply evidence-based practice				
P6. To acquire and apply research skills in medical laboratory technology	✓			
P7. To demonstrate effective communication and teamwork skills		✓	✓	
P8. To maintain professional and ethical standards in medical laboratory practice and research				✓

MODULE SCHEDULE, COVERAGE AND STUDY LOAD

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

10	8. Digital Storage: Preserving Content Locally and on the Cloud 8.1. Hard Drives 8.2. Portable Flash Memory Storage 8.3. Cloud Storage and Enterprise Storage 8.4. Other Types of Storage	2
11	9. Operating Systems: Managing, Coordinating, and Monitoring Resources 9.1. Operating Systems Functions 9.2. Desktop Operating Systems, UNIX, Server Operating Systems 9.3. Mobile Operating Systems	2
12	10. Communicating Digital Content: Wired and Wireless Networks and Devices 10.1. Communications 10.2. Types of Networks 10.3. Communications Software	2
13	10.4. Network Communications Standards and Protocols 10.5. Communications Devices and Transmission Media	2
14	Revision	2
15	Final Examination	2

TEACHING AND LEARNING ACTIVITIES

In this learning module, students will work towards attaining the ILOs through the following teaching and learning activities:

Teaching and Learning Activities	**M1**	**M2**	**M3**	**M4**
T1. Lectures	✓	✓	✓	✓
T2. Lab practices	✓	✓	✓	✓

ATTENDANCE

Attendance requirements are governed by the Academic Regulations Governing Bachelor's Degree Programmes of the Macao Polytechnic University. Students who do not meet the attendance requirements for the learning module shall be awarded an 'F' grade.

ASSESSMENT

In this learning module, students are required to complete the following assessment activities:

Assessment Activities	**Weighting (%)**	**ILOs to be Assessed**
A1. Assignment	20%	M1, M2, M3, M4
A2. Test	30%	M1, M2, M3, M4
A3. Examination	50%	M1, M2, M3, M4

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

Any students scoring less than 35% of the total mark in the final examination will be given an "F" grade for the module even if the overall grade is 50% or higher.

The assessment will be conducted following the University's Assessment Strategy (see www.mpu.edu.mo/teaching_learning/en/assessment_strategy.php). Passing this learning module indicates that students will have attained the ILOs of this learning module and thus acquired its credits.

MARKING SCHEME

Any students scoring less than 35% of the total mark in the final examination will be given an "F" grade for the module even if the overall grade is 50% or higher.

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

REQUIRED READINGS

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

REFERENCES

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.

STUDENT FEEDBACK

At the end of every semester, students are invited to provide feedback on the learning module and the teaching arrangement through questionnaires. Your feedback is valuable for instructors to enhance the module and its delivery for future students. The instructor and programme coordinators will consider all feedback and respond with actions formally in the annual programme review.

ACADEMIC INTEGRITY

The Macao Polytechnic University requires students to have full commitment to academic integrity when engaging in research and academic activities. Violations of academic integrity, which include but are not limited to plagiarism, collusion, fabrication or falsification, repeated use of assignments and cheating in examinations, are considered as serious academic offenses and may lead to disciplinary actions. Students should read the relevant regulations and guidelines in the Student Handbook which is distributed upon the admission into the University, a copy of which can also be found at www.mpu.edu.mo/student_handbook/.