FACULTY OF HEALTH SCIENCES AND SPORTS

BACHELOR OF SCIENCE IN BIOMEDICAL TECHNOLOGY

(MEDICAL LABORATORY TECHNOLOGY)

LEARNING MODULE OUTLINE

Academic Year	2024/2025	Semester	1
Module Code	COMP1101		
Learning Module	Information Technology Fundamentals		
Pre-requisite(s)	Nil		
Medium of Instruction	English and Chinese		
Credits	2	Contact Hours	30
Instructor	Phillip Cheong	Email	ncheong@mpu.edu.mo
Office	Rm.M520, Meng Tak Bldg.	Office Phone	8599-3333

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.
M5.	Develop logical thinking skills from information technology applications.
M6.	Understand the general concepts, application scenarios and social impact of artificial intelligence.

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

PILOs	M1	M2	M3	M4	M5	M6
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. Introduction to Campus Computer Network 1.1 Campus computer network 1.2 Browser and email 1.3 Application of anti-virus software 1.4 Using the library's electronic resources – searching for specific journal articles 1.5 Internet search skills	2
2,3	2. Introduction to Today's Technology: Computers, Devices, and Networks 2.1 History of computers and the Internet 2.2 The uses of computers today 2.3 Recent development trends of computers 2.4 Emerging technologies 2.5 Business computer terminology	4
4	3. Application Software 3.1 Document processing (editing professional papers in specific formats) 3.2 Business software 3.3 Graphics and multimedia software (editing research reports in specific formats) 3.4 Software for home, personal and educational purposes 3.5 Mobile phone application software. Application software	2

5	4. Hardware Equipment 4.1 CPU and memory 4.2 Input devices and output devices 4.3 Data storage	2
6	5. System Software 5.1 Operating system 5.2 Discuss popular operating systems 5.3 System utilities 5.4 File management	2
7-9	6. Computer Network 6.1 Basic principles of the Internet 6.2 Area Network and Wide Area Network 6.3 Internet 6.4 Wireless network 6.5 Discuss Web 2.0, Web 3.0 and services on the Internet 6.6 Cloud computing	6
10-12	7. Security, Privacy and Ethics 7.1 Privacy issues in cyberspace 7.2 Crime in computers and cyberspace 7.3 Security and ISO standards 7.4 Viruses (Trojans, worms, etc.) and anti-virus software 7.5 Moral, ethical and social issues brought about by scientific and technological progress 7.6 Respect intellectual property rights	6
13-15	8. Artificial Intelligence 8.1 Development of artificial intelligence 8.2 Machine learning 8.3 Deep learning 8.4 Application of artificial intelligence 8.5 Development and Impact of Artificial Intelligence	6

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**	**M5**	**M6**
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	10%	M1, M2, M3, M4, M5, M6
A2. Test	30%	M1, M2, M3, M4, M5, M6
A3. Group projects	10%	M1, M2, M3, M4, M5, M6
A4. Examination	50%	M1, M2, M3, M4, M5, M6

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

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 course 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 course is 50 or above.

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