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

FACULTY OF APPLIED SCIENCES

BACHELOR OF SCIENCE IN COMPUTING

LEARNING MODULE OUTLINE

Academic Year	2024/2025	Semester	2
Module Code	EDUC322		
Learning Module	Curriculum and Teaching Methods		
Pre-requisite(s)	Nil		
Medium of Instruction	English		
Credits	3	Contact Hours	45 hrs
Instructor	Dr. Junjie Gavin Wu	Email	gavinwu@mpu.edu.mo
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MODULE DESCRIPTION

Curriculum and teaching methods are essential for student success in achieving educational goals. This module intends to develop student's understanding and basic skills in analysing, reflecting and applying curriculum and teaching principles particularly appropriate to information technology. Topics relating to curriculum theory, curriculum development processes, and a plenary discussion on the types of instructional media and the principles involved in using each media will be covered.

MODULE INTENDED LEARNING OUTCOMES (ILOS)

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

M1.	Use curriculum theory in the planning, development and implementation of information technology curriculum; (SM1p, ET2p)
M2.	Execute information technology lessons appropriately and effectively; (SM1p, ET2p, EP2p, EP3p, EP7p)
M3.	Use interactive teaching and learning strategies for effective teaching and learning of information technology; (SM1p, ET2p, EP2p, EP3p, EP7p)
M4.	Develop critical thinking in the teaching and learning of information technology; (SM1p, ET2p, EP2p, EP3p, EP7p)
M5.	Integrate cross-cutting issues in the teaching and learning of information technology; (SM1p, ET2p, EP2p, EP3p, EP7p)

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

PILOs		**M1**	**M2**	**M3**	**M4**	**M5**
P1.	Select and apply proven methods, tools and techniques to the effective and efficient implementation of information systems;					

P2.	Evaluate computer systems in a local area network, and understand the additional requirements for connection to other networks through wide area networks;					
P3.	Be competent in system development in the Internet and the web platform;					
P4.	Work independently to design and implement a relational database, with an emphasis on how to organise, maintain and retrieve information from a DBMS;					
P5.	Acquire essential knowledge in specific fields of computing disciplines including multimedia, security and artificial intelligence;					
P6.	Acquire the perceptive skills needed to understand information presented in the form of UML diagram, flow chart or other industry standard formats;					
P7.	Understand the need for and use of the necessary mathematical techniques;					
P8.	Work independently to develop an understanding of, and the knowledge and skills associated with the general support of computer systems and networks;					
P9.	Work as an effective member of a team in the analysis, design and development of software systems;					
P10.	Use project planning and management techniques in systems development;					
P11.	Understand the fundamental and operational issues of computer systems in business environments;					
P12.	Equip with adequate written, oral communication and interpersonal skills;		✓	✓	✓	✓
P13.	Build the capacity and desire for lifelong learning and to learn advanced and emerging technologies on one's own;	✓	✓	✓	✓	✓
P14.	(For Enterprise Information Systems specialization) Gain an in-depth understanding of the information technology related to enterprise information systems, with an emphasis on development of such systems to support business processes;					
P15.	(For Gaming Technology specialization) Acquire the general and advanced knowledge of current technologies and operating environment in the gaming industry;					
P16.	(For Computer Education specialization) Acquire the general and practical knowledge of computer education and its practicing environment in secondary education.	✓	✓	✓	✓	✓

MODULE SCHEDULE, COVERAGE AND STUDY LOAD

Week	Content Coverage	Contact Hours
1	1 Introduction to the module and assessment	3
2	2 Educational policies	3
3-4	3 Curriculum Theory	6

	3.1 The concept of curriculum	
	3.2 The types of curricula	
	3.3 Curriculum development process	
	3.4 Aims, goals and objectives	
5-7	4 Teaching and learning materials	9
	4.1 The syllabus	
	4.2 The textbook	
	4.3 Supplementary curriculum materials	
	4.4 Instructional media	
8-11	5 Teaching and learning approaches for IT	12
	5.1 The concept of teaching and learning IT	
	5.2 Methods, strategies and techniques of teaching IT	
	5.3 Classroom management and organization for IT	
12	6 Planning for teaching IT	3
13-15	7 Teaching practice	9
	7.1 The concept of teaching practice	
	7.2 Types of teaching practice	
	7.3 Assessment of teaching practice	

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**
T1. Lectures	✓	✓	✓	✓	✓
T2. In-class exercises		✓	✓	✓	

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 (%)	AHEP3 LOs	ILOs to be Assessed
A1. Assignment	20	SM1p, ET2p, EP2p, EP3p, EP7p	M1, M2, M3, M4, M5
A2. Micro teaching practice	20	SM1p, ET2p, EP2p, EP3p, EP7p	M1, M2, M3, M4, M5
A3. Examination	60	SM1p, ET2p, EP2p, EP3p, EP7p	M1, M2, M3, M4, M5

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.

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.

REQUIRED READINGS

There is no official text for this module. Module notes are distributed in the module.

REFERENCES

1. Hazzan, O., Lapidot, T. and Ragonis, N. (2014). *Guide to Teaching Computer Science: An Activity-Based Approach* (2nd ed.). London: Springer.
2. Connell, A. and Edwards, A. (2014). *A Practical Guide to Teaching Computing and ICT in the Secondary School* (2nd.ed.). Routledge.
3. Marsh, C.J. (1997). *Perspectives: Key Concepts for Understanding Curriculum*. London: Falmer Press.
4. Kyriacou, C. (1997). *Effective Teaching in Schools: Theory and Practice* (2nd ed.). Cheltenham, UK: Nelson Thornes Ltd.
5. Nayak, A.K. and Rao, V.K. (2008). *Classroom Teaching Methods and Practices*. New Delhi: APH Publishing Corporation.
6. Dhand, H. (2009). *Techniques of Teaching*. New Delhi: APH Publishing Corporation.

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/.