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	2023/2024	Semester	2
Module Code	COMP324		
Learning Module	Gaming Technology I		
Pre-requisite(s)	COMP316 Introduction to Gaming Technology		
Medium of Instruction	English		
Credits	3	Contact Hours	45
Instructor	Lei In San	Email	t1698@mpu.edu.mo
Office	---	Office Phone	---

MODULE DESCRIPTION

This module explains the highly regulated electronic gaming machines and the main gaming information systems from a technical perspective. Gaming information systems such as progressives, accounting system, bonusing system and configuration system will be discussed. Topics covered include electronic gaming machines, design and architecture of the gaming floor network and systems, and testing, standards, and certification.

MODULE INTENDED LEARNING OUTCOMES (ILOS)

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

M1.	Analyse electronic gaming machines and the major gaming information systems from a technical perspective; (SM1p, EP3p)
M2.	Justify the design of electronic gaming machines and major gaming information systems from a juridical perspective; (D1p, ET5p)
M3.	Analyse an electronic game from a technical perspective; (EA1p, D3p)
M4.	Design the mathematical core component of an electronic game; (EA1p, D1p, D3p)
M5.	Justify the role of operator, manufacturer and regulator in the industry; (ET5p, EP6p)
M6.	Analyse the testing, standards and regulations in the gaming industry. (ET5p, EP6p)

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

PILOs		M1	M2	M3	M4	M5	M6
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 specialisation) 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 specialisation) 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
1-4	1	Electronic Gaming Machines		12
	1.1	Hardware and Software		
	1.2	External communication		
	1.3	Voucher in and voucher out		
5-6	2	Game		6
	2.1	Paytable Design		
	2.2	Random Number Generator		
7	3.	Electronic Table Games		3
8	4.	Tournament Gaming Machines		3
9	5.	Gaming Floor Networks		3
10-13	6.	Gaming Floor Systems		12
	6.1	Progressives		
	6.2	Central Monitoring System		
	6.3	Accounting System		
	6.4	Bonusing System		
	6.5	Configuration System		
14-15	7.	Compliance, Certifications and Regulations		6
	7.1	Gaming Standards & Testing		
	7.2	Protocol Testing & Certification		

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 and case studies	✓	✓	✓		✓	✓
T2. In-class lab exercises and discussion				✓		

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 LO	ILOs to be Assessed
A1. Assignment	25%	D1p, D3p, EP3p, EP6p	M1, M2, M3, M4, M5, M6
A2. Test	25%	SM1p, EA1p, ET5p	M1, M2, M3, M4, M5, M6
A3. Examination	50%	SM1p, EA1p, ET5p	M1, M2, M3, M4, M5, M6

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 class.

REFERENCES

1. Andrew Siu Ka Meng, Philip Lei, Iat Seng. (2020). Principles of Gaming Technologies. McGraw Hill Education.
2. Jan Bokunewicz, Donald Keisel, Maria McNichols. (2011). Casino Gaming Technology. Prentice Hall.
3. Jim Kilby, Jim Fox, Anthony F.Lucas. (2005). Casino Operations Management (2nd ed.). John Wiley & Sons.
4. www.dicj.gov.mo. Gaming Inspection and Coordination Bureau (DICJ), Macao SAR
5. app.cra.gov.sg/public/www/home.aspx. Casino Regulatory Authority (CRA), Singapore
6. www.gaminglabs.com. Gaming Laboratories International (GLI)
7. www.gamingstandards.com. Gaming Standards Association (GSA)

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/.