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

FACULTY OF BUSINESS
BACHELOR OF E-COMMERCE
LEARNING MODULE OUTLINE

Academic Year	2024/25	Semester	1
Module Code	ECOM4140-411		
Learning Module	Selected Topics in E-Commerce		
Pre-requisite(s)	Nil		
Medium of Instruction	English		
Credits	3	Contact Hours	45
Instructor	Dr. Thomas Li	Email	spli@mpu.edu.mo
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MODULE DESCRIPTION

This course aims to provide students with a comprehensive examination of a particular state-of-the-art topic in E-Commerce discipline and for faculty members to introduce their current research into the curriculum. The course coverage may differ from one offering to the next.

MODULE INTENDED LEARNING OUTCOMES (ILOS)

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

M1.	define major forms of natural language processing (NLP);
M2.	construct a conversational chatbot;
M3.	combine a chatbot application with APIs and database;
M4.	identify appropriate data visualization techniques given specific requirements imposed by the data and driving questions, and build data graphics using suitable data visualization and analytics software;
M5.	tell story with data visualization that will resonate with the audience.

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

PILOs	**M1**	**M2**	**M3**	**M4**	**M5**
P1. Demonstrate an understanding of the business processes and operations and the skillful realization of information technologies required to practice electronic commerce;	✓				✓
P2. Apply knowledge in business, mathematics, programming, computing, web development, and database to address complex problems in the context of electronic commerce;		✓	✓	✓	✓

P3. Analyze critically the effect of web technology use on organizational performance and develop electronic commerce strategies that fit organizational objectives;					
P4. Select and apply tools and technologies to effectively implement electronic commerce systems in business intelligence, enterprise resources planning, supply chain management, and customer relationship management;		✓	✓	✓	✓
P5. Develop relationships, motivate others, manage conflicts, lead changes, and work across differences in multi-disciplinary electronic commerce projects;					
P6. Communicate and work effectively using written and spoken word, non-verbal language, and electronic tools with fellow professionals and different stakeholders in the electronic commerce industry;					✓
P7. Demonstrate a global electronic commerce perspective as evidenced by an understanding of foreign languages and the role of Macau as an interface between the East and the West;					
P8. Cope with and manage contemporary advancement related to electronic commerce development and demonstrate lifelong learning attitudes and abilities;	✓				
P9. Conduct research and devise innovative electronic commerce models to exploit business opportunities; and				✓	✓
P10. Reflect on professional responsibilities and keep up with the latest electronic commerce issues on legal, environmental, ethical, and societal considerations to benefit society comprehensively.					

MODULE SCHEDULE, COVERAGE AND STUDY LOAD

Week	Content Coverage	Contact Hours
1	Introduction to Natural Language Processing	2
1-2	Introduction to Google's Dialogflow	2
3-4	Using Intents and Entities	5
4	Creating Fulfilment Webhooks	3
5-8	Chatbots with a Database Connection	12
9	Building Chatbots with Templates	3
10-13	Visualizing data with Tableau	12
14	Project 1 Presentation	3
15	Project 2 Presentation	3

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. Lab	✓	✓	✓	✓	✓
T3. Quizzes	✓			✓	
T4. Projects	✓	✓	✓	✓	✓

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. Project 1 (a group project for building a chatbot with a database connection)	50	M2-M3
A2. Project 2 (a group project for telling stories through data visualization)	40	M4-M5
A3. Quizzes	10	M1, M4

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

	Assessment Task	Criterion	Excellent (A, A-) 88% - 100%	Very Good, Good (B+, B, B-) 73% - 87%	Satisfactory (C+, C, C-) 58 - 72%	Pass (D+, D) 50% – 57%	Fail (F) 0% - 49%
A1.	Project 1	Demonstrate the **ability** to **develop** a chatbot with a connection to a database for a	High	Significant	Moderate	Basic	Not even reaching marginal levels

		business application					
A2.	Project 2	Demonstrate the **ability** to **use** appropriate data graphs to **tell** stories about the data for a specific problem	High	Significant	Moderate	Basic	Not even reaching marginal levels
A3.	Quizzes	Demonstrate the **ability** to **explain** the key concepts discussed in the lectures	High	Significant	Moderate	Basic	Not even reaching marginal levels

REQUIRED READINGS

L. Boonstra, 2021, The Definitive Guide to Conversational AI with Dialogflow and Google Cloud, Apress.

REFERENCES

Website

- https://cloud.google.com/dialogflow/docs

Book

- J. Hyman, 2023, *Tableau for Dummies*, 2nd ed., Wiley.
- L. Ryan, 2023, *Visual Analytics Fundamentals: creating compelling data narratives with Tableau*, 2023, Pearson.

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/.