



**FACULTY OF APPLIED SCIENCES**  
**BACHELOR OF SCIENCE IN ARTIFICIAL INTELLIGENCE**  
**LEARNING MODULE OUTLINE**

Academic Year	2025/2026	Semester	1
Module Code	MENG3111		
Learning Module	Science Communications		
Pre-requisite(s)	MENG2112 – English IV		
Medium of Instruction	English		
Credits	3	Contact Hours	45 hrs
Instructor	Constance Ho Daisy Jiang Si Tou Chi Fai	Email	t1210@mpu.edu.mo t1712@mpu.edu.mo t1847@mpu.edu.mo
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**MODULE DESCRIPTION**

The module develops the students' abilities to effectively communicate science information to technical and non-technical audiences. It covers strategies for preparing and communicating technical content for written and spoken settings, while addressing challenges in dealing with complex research topics. It cultivates practical communication skills for science-related topics.

**MODULE INTENDED LEARNING OUTCOMES (ILOS)**

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

M1.	Critically read scientific literature and assess its claims and evidences in arguments; (C4, C17, C18)
M2.	Organize and articulate a scientific argument with supporting evidences; (C17, C18)
M3.	Write a technical document using the IMRaD (introduction, methods, results, and discussion); (C4, C17, C18)
M4.	Deliver an oral presentation of scientific material effectively for different kinds of audience; (C17, C18)



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

PILOs	M1	M2	M3	M4
P1. Select and apply proven methods, tools and techniques to the effective and efficient implementation of information systems on common platforms, including the Internet platform;				
P2. Acquire essential knowledge in specific fields of computing disciplines including networking, artificial intelligence and security;				
P3. Apply necessary mathematical techniques to model, analyse and devise solutions to complex problems;				
P4. Work independently to develop an understanding of, and the knowledge and skills associated with the general support and mitigation of security risks of computer systems and networks;				
P5. Design and implement relational database, with an emphasis on how to organise, maintain, retrieve and analyse information;				
P6. Distinguish the fundamental and operational issues of computer systems, with considerations of user, business, ethical, societal and environmental needs;				
P7. Evaluate, prepare and communicate effectively on technical information to both technical and non-technical audience;	✓	✓	✓	✓
P8. Work as an effective member of a team in the analysis, design and development of software systems, with recognition of requirement to support equality, diversity and inclusion;				
P9. Use project planning, risk management and quality management techniques in solutions to complex problems;				
P10. Build the capacity and desire for lifelong learning and to learn advanced and emerging technologies on one's own;	✓	✓	✓	✓



## MODULE SCHEDULE, COVERAGE AND STUDY LOAD

Week	Content Coverage	Contact Hours
1	1. Introduction	3
	1.1 Technical Communications	
	1.2 The scientific method	
	1.3 Roles of communications in science	
2-3	2. Information literacy	6
	2.1 Primary and secondary information sources	
	2.2 Professional and scholarly information	
	2.3 Science literature and science as a community endeavor	
	2.4 Evaluating sources	
4-6	3. Components of a scientific paper	9
	3.1 Overall structure, IMRaD	
	3.2 Research questions, methods, results and discussion	
	3.3 Background and related works, citations	
	3.4 Critical reading	
7-9	4. Methods and results	9
	4.1 Methods: describing data, process and mechanism	
	4.2 Results: presenting data and findings	
	4.3 Discussion: supporting arguments with evidence	
10-12	5. Oral presentations	9
	5.1 Preparation: content, organizations, visuals	
	5.2 Delivery: timing, pacing, signal and transition words	
13-15	6. Text structure	9
	6.1 Sections, paragraphs, sentences	
	6.2 Flow, transition and coherence	
	6.3 Grammar, style and punctuation	

## 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, case studies, videos	✓	✓	✓	✓
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 (%)	AHEP4 LOs	ILOs to be Assessed
A1. Assignments	30%	C4, C17, C18	M1, M2, M3, M4
A2. Oral Presentation	20%	C17, C18	M4
A3. Test	10%	C4, C17, C18	M1, M2, M3
A4. Examination	40%	C4, C17, C18	M1, M2, M3

The assessment will be conducted following the University's Assessment Strategy (see [www.mpu.edu.mo/teaching\\_learning/en/assessment\\_strategy.php](http://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

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

## REFERENCES

1. Schimel, J (2012). Writing Science. Oxford University Press.
2. Glasman-Deal (2010). Science Research Writing. Imperial College Press.
3. Gross, A. et al. Technical Writing. <https://openoregon.pressbooks.pub/technicalwriting/>.

## 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/](http://www.mpu.edu.mo/student_handbook/).