National University of Engineering (UNI)
School of Artificial Intelligence
Syllabus 2024-I

1. COURSE

MA100. Mathematics I (Mandatory)

2. GENERAL INFORMATION

2.1 Course	:	MA100. Mathematics I
2.2 Semester	:	1^{st} Semester.
2.3 Credits	:	5
2.4 Horas	:	2 HT; 6 HP;
2.5 Duration of the period	:	16 weeks
2.6 Type of course	:	Mandatory
2.7 Learning modality	:	Face to face
2.8 Prerrequisites	:	None

3. PROFESSORS

Meetings after coordination with the professor

4. INTRODUCTION TO THE COURSE

The course aims to develop in students the skills to deal with models in science and engineering related to single variable differential calculus skills. In the course it is studied and applied concepts related to calculation limits, derivatives and integrals of real and vector functions of single real variables to be used as base and support for the study of new contents and subjects. Also seeks to achieve reasoning capabilities and applicability to interact with real-world problems by providing a mathematical basis for further professional development activities.

5. GOALS

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6. COMPETENCES

1) Analizar un problema computacional complejo y aplicar los principios computacionales y otras disciplinas relevantes para identificar soluciones. (**Evaluar**)

6) Aplicar la teoría de la computación y los fundamentos del desarrollo de software para producir soluciones basadas en computación. (**Evaluar**)

7. TOPICS

Unit 1: (20 hours)	
Competences Expected:	
Topics	**Learning Outcomes**
• . • .	• . • .
Readings : [Ste12], [ión14]	

Unit 2: (10 hours)	
Competences Expected:	
Topics	**Learning Outcomes**
• . • . • . • . • . • .	• . • . • . • . • . • .
Readings : [Ste12], [ión14]	

Unit 3: (20 hours)	
Competences Expected:	
Topics	**Learning Outcomes**
• . • . • . • . • .	• . • . • . • . • . • . • . • . • . • .
Readings : [Ste12], [ión14]	

Unit 4: (22 hours)	
Competences Expected:	
Topics	**Learning Outcomes**
• . • . • . • .	• . • . • . • . • . • . • . • . • . • . • .
Readings : [Ste12], [ión14]	

8. WORKPLAN

8.1 Methodology

Individual and team participation is encouraged to present their ideas, motivating them with additional points in the different stages of the course evaluation.

8.2 Theory Sessions

The theory sessions are held in master classes with activities including active learning and roleplay to allow students to internalize the concepts.

8.3 Practical Sessions

The practical sessions are held in class where a series of exercises and/or practical concepts are developed through problem solving, problem solving, specific exercises and/or in application contexts.

9. EVALUATION SYSTEM

********* EVALUATION MISSING ********

10. BASIC BIBLIOGRAPHY

[ión14] ROn Larson ión. *Calculus*. 10th. 2014.

[Ste12] James Stewart. *Calculus*. 7th. 2012.