National University of Engineering (UNI)
School of Computer Science
Syllabus 2026-I

1. COURSE

CS403. Capstone Project II (Mandatory)

2. GENERAL INFORMATION

2.1 Course	:	CS403. Capstone Project II
2.2 Semester	:	9^{th} Semester
2.3 Credits	:	3
2.4 Horas	:	1 HT; 4 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	:	CS402. Capstone Project I. (8^{th} Sem)

3. PROFESSORS

Meetings after coordination with the professor

4. INTRODUCTION TO THE COURSE

This course aims to enable students to develop their research proposal and experiments based on the state-of-the-art previously surveyed.

5. GOALS

- For the student to be capable of formally presenting their thesis project with complete theoretical framework and bibliographic survey.
- For the student to develop their research proposal.
- The deliverables for this course are:

  Midterm Progress: Partial progress of their research proposal and thesis plan including motivation, context, problem definition, objectives, activity schedule up to the final thesis project, the state-of-the-art of the addressed topic, and partial advances of their research proposal including how they propose to use/create/improve/apply new or existing algorithms.

  Final: Thesis plan at an advanced stage, thesis progress including chapters on thesis proposal and preliminary experiments.

6. COMPETENCES

1) Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions. (Assessment)

AG-C07) Computing Knowledge: Applies appropriate knowledge of mathematics, science, and computing. (Assessment)

2) Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline. (Assessment)

AG-C09) Solution Design and Development: Designs, implements, and evaluates solutions for complex computing problems. (Assessment)

4) Recognize professional responsabilities and make informed judgments in computing practice based on legal and ethical principles. (Assessment)

AG-C02) Ethics: Applies ethical principles and commits to professional ethics and standards of computing practice. (Assessment)

5) Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline. (Assessment)

AG-C03) Individual and Teamwork: Performs effectively as an individual and as a member or leader in diverse teams. (Assessment)

6) Apply computer science theory and software development fundamentals to produce computing-based solutions. (Assessment)

AG-C12) Applies computer science theory and software development fundamentals to produce computer-based solutions. (Assessment)

7. TOPICS

Unit 1: Thesis Project (30 hours)	
Competences Expected: 1,2,4,5,6,AG-C02,AG-C03,AG-C07,AG-C09,AG-C12	
Topics	**Learning Outcomes**
• Thesis Project.	• Description of the format used by the University for the thesis plan [Evaluar] • Complete the thesis project plan[Evaluar] • Present the state-of-the-art of the thesis topic (50%)[Evaluar]
Readings : [IEE08], [ACM08], [Cit08]	

Unit 2: Thesis Progress (30 hours)	
Competences Expected: 1,2,4,5,6,AG-C02,AG-C03,AG-C07,AG-C09,AG-C12	
Topics	**Learning Outcomes**
• Thesis Progress.	• Description of the format used by the University for the thesis[Evaluar] • Complete the Theoretical Framework chapter of the Thesis[Evaluar] • Complete the Related Works chapter (35%)[Evaluar] • Plan, develop and present results (formal or statistical) of experiments oriented to their thesis topic (35%)[Evaluar]
Readings : [IEE08], [ACM08], [Cit08]	

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

[ACM08] ACM. *Digital Libray*. http://portal.acm.org/dl.cfm. Association for Computing Machinery, 2008.

[Cit08] CiteSeer.IST. *Scientific Literature Digital Libray*. http://citeseer.ist.psu.edu. College of Information Sciences and Technology, Penn State University, 2008.

[IEE08] IEEE-Computer Society. *Digital Libray*. http://www.computer.org/publications/dlib. IEEE-Computer Society, 2008.