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

1. COURSE

CS402. Capstone Project I (Mandatory)

2. GENERAL INFORMATION

2.1 Course	:	CS402. Capstone Project I
2.2 Semester	:	8^{th} Semester.
2.3 Credits	:	3
2.4 Horas	:	2 HT; 2 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	:	CS401. Methodology of Computation Research . (7^{th} Sem)

3. PROFESSORS

Meetings after coordination with the professor

4. INTRODUCTION TO THE COURSE

This course aims to allow the student to carry out a study of the state of the art of a topic chosen by the student for his thesis.

5. GOALS

- That the student carries out an initial investigation in a specific subject realizing the study of the state of the art of the chosen subject.
- That the student shows mastery in the subject of the line of investigation chosen
- That the student choose a teacher who dominates the research chosen as an advisor.
- The deliverables of this course are:

  Avance parcial: Solid bibliography and progress of a Technical Reporto.

  Final: Technical Report with preliminary comparative experiments that demonstrate that the student already knows the existing techniques in the area of his project and choose a teacher who dominates the area of his project as an adviser of his project.

6. COMPETENCES

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

2) Diseñar, implementar y evaluar una solución basada en computación para cumplir con un conjunto determinado de requisitos computacionales en el contexto de las disciplinas del programa. (**Usar**)

3) Comunicarse efectivamente en diversos contextos profesionales. (**Usar**)

4) Reconocer las responsabilidades profesionales y hacer juicios informados en el campo profesional de computación con principios éticos. (**Evaluar**)

5) Funcionar efectivamente como miembro o líder de un equipo involucrado en actividades apropiadas a la disciplina del programa. (**Usar**)

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

7) Desarrollar tecnología computacional buscando el bien común, aportando con formación humana, capacidades científicas, tecnológicas y profesionales para solucionar problemas sociales de nuestro entorno. (**Usar**)

7. TOPICS

Unit 1: Lifting the state of the art (60 hours)	
Competences Expected:	
Topics	**Learning Outcomes**
• Perform an in-depth study of the state of the art in a certain topic in the area of Computation. • Writing technical articles in computing.	• Make a bibliographical survey of the state of the art of the chosen subject (this probably means 1 or 2 chapters of theoretical framework in addition to the introduction that is chapter I of the thesis) [Usar] • Writing a latex document in paper format with higher quality than Project I (master tables, figures, equations, indices, bibtex, cross references, citations, pstricks) [Usar] • Try to make presentations using prosper [Usar] • Show basic experiments [Usar] • Choose an advisor who dominates the research area [Usar]
Readings : [IEE08], [Ass08], [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

[Ass08] Association for Computing Machinery. *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.