



National University of Engineering (UNI)

School of Cybersecurity
Syllabus 2024-II

1. COURSE

CS361. Computational Vision (Elective)

2. GENERAL INFORMATION

2.1 Course	:	CS361. Computational Vision
2.2 Semester	:	8 th Semester.
2.3 Credits	:	4
2.4 Horas	:	2 HT; 4 HP;
2.5 Duration of the period	:	16 weeks
2.6 Type of course	:	Elective
2.7 Learning modality	:	Face to face
2.8 Prerequisites	:	CS262. Machine learning. (7 th Sem)

3. PROFESSORS

Meetings after coordination with the professor

4. INTRODUCTION TO THE COURSE

Provee una serie de herramientas para resolver problemas que son difíciles de solucionar con los métodos algorítmicos tradicionales. Incluyendo heurísticas, planeamiento, formalismos en la representación del conocimiento y del razonamiento, técnicas de aprendizaje en máquinas, técnicas aplicables a los problemas de acción y reacción: así como el aprendizaje de lenguaje natural, visión artificial y robótica entre otros.

5. GOALS

- Realizar algún curso avanzado de Inteligencia Artificial sugerido por el currículo de la ACM/IEEE.

6. COMPETENCES

- 1) Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions. (Assessment)
- 5) Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline. (Usage)
- 6) Apply security principles and practices to maintain operations in the presence of risks and threats. (Assessment)

7. TOPICS

Unit 1: (60 hours)	
Competences Expected:	
Topics	Learning Outcomes
<ul style="list-style-type: none"> • CS360. Sistemas Inteligentes • CS361. Razonamiento automatizado • CS362. Sistemas Basados en Conocimiento • CS363. Aprendizaje de Maquina [Russell03],[Haykin99] • CS364. Sistemas de Planeamiento • CS365. Procesamiento de Lenguaje Natural • CS366. Agentes • CS367. Robótica • CS368. Computación Simbólica • CS369. Algoritmos Genéticos [Goldberg89] 	<ul style="list-style-type: none"> • Profundizar en diversas técnicas relacionadas a la Inteligencia Artificial [Usar]
Readings : [Russell03], [Haykin99], [Goldberg89]	

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