National University of Engineering (UNI)
School of Computer Science
Syllabus 2027-I

1. COURSE

CS3E4. Topics in Computer Science II (Elective)

2. GENERAL INFORMATION

2.1 Course	:	CS3E4. Topics in Computer Science II
2.2 Cycle	:	
2.3 Credits	:	4
2.4 Hours	:	2 HT; 2 HP;
2.5 Duration of the period	:	16 weeks
2.6 Type of course	:	Elective
2.7 Learning modality	:	Face to face
2.8 Prerrequisites	:	None

3. PROFESSORS

Meetings after coordination with the professor

4. INTRODUCTION TO THE COURSE

Computer Science evolves faster than any fixed curriculum can track. This is the second of four variable-content elective slots (Topics in Computer Science I-IV) reserved specifically so the department can offer rigorous coursework on an emerging or specialized topic as soon as it becomes relevant, without waiting for a full curriculum revision. The specific subject, learning outcomes, and bibliography are defined by the instructor for each offering and published ahead of enrollment; this entry documents the slot's generic purpose, prerequisites, and credit load.

5. GOALS

- Acquire the specific knowledge and skills needed for the advanced Computer Science topic selected for this offering of the course.
- Apply current research, tools, and best practices relevant to that topic to a non-trivial problem or project.
- Critically evaluate the state of the art in the chosen topic and identify open problems and future directions.

6. COMPETENCES

AG-C09) Design and Development of Solutions: Designs, implements, and evaluates solutions for complex computing problems. (Usage)

AG-C11) Use of Tools: Applies modern computing tools in problem solving. (Familiarity)

AG-C12) Uses systemic approaches to select, develop, apply, integrate, and manage secure computing technologies to achieve user objectives. (Usage)

7. TOPICS

Unit 1: Topic to be announced (32 hours)	
Competences Expected: AG-C09,AG-C12	
Topics	**Learning Outcomes**
• Foundational background specific to the topic chosen for this offering. • Core techniques, models, or systems for that topic. • Hands-on application via a project or set of assignments. • Critical survey of the current state of the art and open research directions.	• Explain the foundational concepts of the topic chosen for this offering [Familiarizarse]. • Apply the topic's core techniques to a non-trivial problem or project [Usar]. • Critically evaluate the state of the art and open problems in the topic [Evaluar].
Readings : [ACM]	

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

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

Lab Sessions:
In order to verify their competences, several activities including active learning and roleplay will be developed during lab sessions.

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

Reading:
Throughout the course different readings are provided, which are evaluated. The average of the notes in the readings is considered as the mark of a qualified practice. The use of our virtual campus allows each student to access the course information, and interact outside the classroom with the teacher and with the other students.

The final grade NF depends on the following grades:

- PE: Partial Exam.
- FE: Final Exam.
- P: Permanent Evaluation (Average of practical work and graded assignments).

The final grade NF is calculated as follows:

$$NF = \frac{PE + FE + P}{3}$$

10. BASIC BIBLIOGRAPHY

[ACM] ACM. *ACM Computing Surveys.* A peer-reviewed journal of survey articles spanning all areas of Computer Science – consult current and past issues for material relevant to the specific topic taught this term.