

## 1. COURSE

CS402. Capstone Project I (Mandatory)

## 2. GENERAL INFORMATION

- 2.1 Course** : CS402. Capstone Project I  
**2.2 Semester** : 8<sup>vo</sup> Semestre.  
**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** : Blended  
**2.8 Prerequisites** : CS401. Methodology of Computation Research . (7<sup>th</sup> Sem)  
CS401. Methodology of Computation Research . (7<sup>th</sup> 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) Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions. (**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. (**Usage**)
- 3) Communicate effectively in a variety of professional contexts. (**Usage**)
- 4) Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles. (**Assessment**)
- 5) Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline. (**Usage**)

- 6) Apply computer science theory and software development fundamentals to produce computing-based solutions. (**Assessment**)
- 7) Develop computational technology for the well-being of all, contributing with human formation, scientific, technological and professional skills to solve social problems of our community. (**Usage**)

## 7. TOPICS

Unit 1: Lifting the state of the art (60)	
Competences Expected:	
Topics	Learning Outcomes
<ul style="list-style-type: none"> <li>• Perform an in-depth study of the state of the art in a certain topic in the area of Computation.</li> <li>• Writing technical articles in computing.</li> </ul>	<ul style="list-style-type: none"> <li>• 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) [Usage]</li> <li>• Writing a latex document in paper format with higher quality than Project I (master tables, figures, equations, indices, bibtex, cross references, citations, pstricks) [Usage]</li> <li>• Try to make presentations using prosper [Usage]</li> <li>• Show basic experiments [Usage]</li> <li>• Choose an advisor who dominates the research area [Usage]</li> </ul>
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.