University of Engineering and Technology
School of Computer Science
Syllabus of Course – Academic Period 2017-II

1. **Code and Name:** CS393. Information systems
2. **Credits:** 4
3. **Hours of theory and Lab:** 2 HT; 4 HP;
4. **Professor(s)**

   Meetings after coordination with the professor

5. **Bibliography**

[PM14]   Roger S. Pressman and Bruce Maxim. *Software Engineering: A Practitioner's Approach.* 8th. McGraw-Hill, Jan. 2014.

[Som10]   Ian Sommerville. *Software Engineering.* 9th. Addison-Wesley, Mar. 2010.

6. **Information about the course**

   (a) **Brief description about the course** Analyze techniques for the correct implementation of scalable, robust, reliable and efficient information systems in organizations.

   (b) **Prerrequisites:** CS291. Ingeniería de Software I. (5to Sem)

   (c) **Type of Course:** Mandatory

7. **Competences**

   - Implement correctly (scalable, robust, reliable and efficient) Information Systems in organizations.

8. **Contribution to Outcomes**

   c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. (**Usage**)

   i) An ability to use the techniques, skills, and modern computing tools necessary for computing practice. (**Usage**)

   k) Apply the principles of development and design in the construction of software systems of variable complexity. (**Assessment**)

9. **Competences (IEEE)**

   C7. Being able to apply the software engineering principles and technologies to ensure that software implementations are robust, reliable, and appropriate for their intended audience.⇒ **Outcome c**

   C8. Understanding of what current technologies can and cannot accomplish. ⇒ **Outcome c**

   C16. Ability to identify advanced computing topics and understanding the frontiers of the discipline.⇒ **Outcome k**

   CS4. Deploy appropriate theory, practices, and tools for the specification, design, implementation, and maintenance as well as the evaluation of computer-based systems.⇒ **Outcome k**

   CS6. Evaluate systems in terms of general quality attributes and possible tradeoffs presented within the given problem.⇒ **Outcome i**

   CS10. Deploy effectively the tools used for the construction and documentation of software, with particular emphasis on understanding the whole process involved in using computers to solve practical problems. This should include tools for software control including version control and configuration management.⇒ **Outcome k**

10. List of topics

1. Introduction

2. Strategy

3. Implementation

11. Methodology and Evaluation
Methodology:

Theory Sessions:
The development of the theoretical sessions is focused on the student, through his active participation, solving problems related to the course with the individual contributions and discussing real cases of the industry. The students will develop throughout the course a project of application of the tools received in a company.

Lab Sessions:
Practical sessions are held in the laboratory. Laboratory practices are performed in teams to strengthen their communication. At the beginning of each laboratory the development of the practice is explained and at the end the main conclusions of the activity in group form are highlighted.

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 the UTEC Online virtual campus allows each student to access the course information, and interact outside the classroom with the teacher and with the other students.
Evaluation System:

12. Content

Unit 1: Introduction (15)	
Competences Expected: C7,C8	
Learning Outcomes	**Topics**
• Correctly apply technology for information management [Assessment]	• Introduction to information management. • Software for information management. • Technology for information management.
Readings : [Som10], [PM14]	

Unit 2: Strategy (15)	
Competences Expected: C16, CS4	
Learning Outcomes	**Topics**
• Apply and evaluate correctly management strategies [Assessment]	• Strategy for information management. • Strategy for knowledge management • Strategy for information system.
Readings : [Som10], [PM14]	

Unit 3: Implementation (15)	
Competences Expected: CS4, CS6, CS10	
Learning Outcomes	**Topics**
• Implement and correctly evaluate implementation strategies [Assessment]	• Management Information Systems Development. • Change management • Information Architecture
Readings : [Som10], [PM14]	