

FACULTAD DE INGENIERÍA

SYLLABUS

Maestría en Ciencias de la Información y las Comunicaciones

Page 1 de 6

Software Engineering

Emphasis

NAME OF THE SUBJECT: Software Engineering Trends

- Obligatory (X): Basic (X) Complementary ()
- Elective (): Intrinsic () Extrinsic ()

NUMBER OF ACADEMIC CREDITS: Four (4).

COURSE TYPE: THEORETICAL: ___ PRACTICAL: ___ THEORETICAL-PRACTICAL: _X_ Methodological alternatives:

Master Class (X), Seminar (), Seminar - Workshop (X), Workshop (), Practice (X), Tutored projects (X), Other: _____

Justification

Software Engineering has developed in such a magnitude that the areas contained in it gain important recognition for the breadth of knowledge that they contain, because of this it is necessary to be in a constant review of key issues that contribute significantly to the discipline of Software Engineering, and are seen as trends in the area. This type of foresight becomes a key factor in providing not only the opportunity to take on cutting-edge topics but also to achieve curricular flexibility.

PREREQUISITE: For the good development of the course it is considered necessary that the student has wide knowledge in computer science, information systems, databases, programming among others.

Content

GENERAL OBJECTIVE

• To provide a space for foresight that allows for a continuous review of areas in the discipline Software Engineering.



FACULTAD DE INGENIERÍA

SYLLABUS

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Page 2 de 6

SPECIFIC OBJECTIVES

- To carry out a continuous revision of topics of interest in Software Engineering.
- To propose disciplinary options that empower Software Engineering. ٠

SYNTHETIC PROGRAM:

CHAPTER 1 Knowledge Management

- General Concepts
- Knowledge Frameworks

CHAPTER 2 Big Data

- General Concepts
- Specific concepts

CHAPTER 3 Business Intelligence

- General Concepts
- Specific concepts

CHAPTER 4 Enterprise Architecture

- General Concepts
- Specific concepts

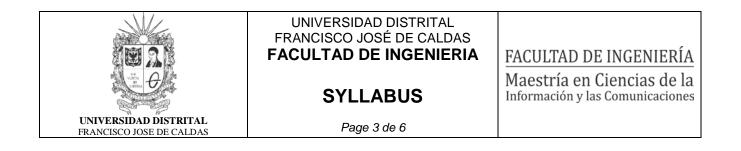
CHAPTER 5 Other issues

Strategies

METHODOLOGY:

The methodological strategy pursues the objective of developing the module by generating participation and integration with the instructors. Therefore, the teacher will create an environment conducive to the teaching-learning process, in which the software development process plays a preponderant role for the development of each class session.

At the beginning of the module, the teacher will present to the students the detailed course of



Face-to-face work- Master Class- Personal Study- Group work dynamics- Research synthesis- Theoretical construction- Tertulia- Tertulia- Total Hours- Total Hours

the subject. The sessions of each subject will be combined with the following strategies.

		Hours		Teacher hours / week	Student hours / week	Total Hours Student / semester	Academic credits	
Type of course	DW	CW	AW	(DW + CW)	(DW + CW +AW)	X 18 weeks		
	3	1	8	4	12	192	4	l

Direct Presential Work (DW): classroom work in plenary session with all students. **Mediated-Cooperative Work (CW):** Teacher tutoring work to small groups or individually to students.

Autonomous Work (AW): Student work without the presence of the teacher, which can be done in different instances: in work groups or individually, at home or in a library, laboratory, etc.)

Resources

PHYSICAL RESOURCES REQUIRED:

- Master classes to introduce the basic concepts using different resources: presentations, videos, consultation of links of interest.
- Collaborative workshops to apply the basic concepts
- Bibliographic review, readings and exhibitions by the students.
- Group development of a course project to implement a case of software engineering trends

BIBLIOGRAPHY:

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FACULTAD DE INGENIERÍA

SYLLABUS

Maestría en Ciencias de la Información y las Comunicaciones

Page 4 de 6

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FACULTAD DE INGENIERÍA

SYLLABUS

Maestría en Ciencias de la Información y las Comunicaciones

Page 5 de 6

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- W.J. Brown, R.C. Malveau, H.W. "Skip" MacCormick III y T.J. Mowbrayin AntiPatterns, Refactoring Software, ArchitCrisis", John Wiley & Sons, 1998.

BIBLIOGRAPHIC RESOURCES:

- IEEE Database
- SPRINGER Database
- ELSEVIER Database
- Kaggle

Course Schedule

Week /Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Big Data	х	Х	х													
2. Business Intelligence				x	x	x	х	х	х	х						
3. Knowledge Management											х	Х	х			
4. Entrprise Architecture														х	х	х



FACULTAD DE INGENIERÍA

SYLLABUS

Maestría en Ciencias de la Información y las Comunicaciones

Page 6 de 6

Evaluation

ASPECTS TO EVALUATE

The teacher explains and describes the criteria to be taken into account when evaluating. For example:

- Evaluation of the teacher's performance by the students
- Evaluation of student learning in its dimensions:individual /group, theoretical/practical, oral/written.
- Self-evaluation:
- Co-evaluation of the course: orally and in writing between students and teacher.

TEACHER INFORMATION:

NAME: José Nelson Pérez Castillo