Course guide  
270502 - DGSI - Development and Management of Information Systems

Unit in charge: Barcelona School of Informatics  
Teaching unit: 747 - ESSI - Department of Service and Information System Engineering.  
Degree: MASTER'S DEGREE IN INFORMATICS ENGINEERING (Syllabus 2012). (Compulsory subject).  
Academic year: 2022  
ECTS Credits: 6.0  
Languages: Catalan

LECTURER

Coordinating lecturer: MARC ALIER FORMENT

Others: Segon quadrimestre: MARC ALIER FORMENT - 10

PRIOR SKILLS

The previous capabilities required by the master MEI.

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
CTE1. Capability to model, design, define the architecture, implement, manage, operate, administrate and maintain applications, networks, systems, services and computer contents.  
CTE3. Capability to secure, manage, audit and certify the quality of developments, processes, systems, services, applications and software products.  
CTE5. Capability to analyze the information needs that arise in an environment and carry out all the stages in the process of building an information system.

Generical:
CG1. Capability to plan, calculate and design products, processes and facilities in all areas of Computer Science.  
CG2. Capacity for management of products and installations of computer systems, complying with current legislation and ensuring the quality of service.  
CG3. Capability to lead, plan and supervise multidisciplinary teams.  
CG6. Capacity for general management, technical management and research projects management, development and innovation in companies and technology centers in the area of Computer Science.  
CG7. Capacity for implementation, direction and management of computer manufacturing processes, with guarantee of safety for people and assets, the final quality of the products and their homologation.  
CG9. Capacity to understand and apply ethical responsibility, law and professional deontology of the activity of the Informatics Engineering profession.

Basic:
CB8. Capability to communicate their conclusions, and the knowledge and rationale underpinning these, to both skilled and unskilled public in a clear and unambiguous way.
TEACHING METHODOLOGY

The course is divided into different types of sessions. But all sessions will be held in the same classroom. Theory sessions. These are sessions where the teacher presents the main concepts of the issues that form the subject content so exhibition and raising some questions to students to encourage their participation. In addition to the concepts, the teacher will encourage students to study articles related to the topics covered in the course. After each presentation, time will be devoted to a discussion on the topic treated with the participation of all students and the teacher's guide. The goal is to discuss the main points of the article, the subject treated and further discuss possible points of dispute. Expected active participation by all students.

Sessions presentations. These sessions are based on public exhibitions of students' own articles related to topics covered in the course. After each presentation, time will be devoted to a discussion on the topic treated with the participation of all students and the teacher's guide. The goal is to discuss the main points of the article, the subject treated and further discuss possible points of dispute. Expected active participation by all students.

Sessions laboratory. These sessions work plan information systems. The teaching method used in the course requires students to acquire new knowledge independently using bibliographic sources that are normally in English. It is essential that students have a sufficient level of English without much difficulty assimilating this literature (technical).

LEARNING OBJECTIVES OF THE SUBJECT

1. To acquire an overview of what an information system is
2. To understand the need to assess the quality of information systems and to know existing strategies and benchmarks for quality assessment
3. To be able to develop an Information Systems Plan
4. To know how to elicit requisites for different components of an information system
5. To know how to define business processes in BPMN and identify the requirements for the IS
6. To know the different software architectures applied to information systems and to know about its adequacy in different cases
7. To know the fundamentals of software product line engineering and the contexts in which they are useful
8. To know some principles and strategies for evaluating the usability in information systems
9. To understand the differences between agile development methodologies and traditional ones and to be able to choose which in a given case

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours medium group</td>
<td>12,0</td>
<td>8.00</td>
</tr>
<tr>
<td>Hours small group</td>
<td>21,0</td>
<td>14.00</td>
</tr>
<tr>
<td>Self study</td>
<td>96,0</td>
<td>64.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>21,0</td>
<td>14.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h

CONTENTS

Introduction

Description:
Information system concept, information system development process and stages and quality of information systems

Historical development in information systems

Description:
We will analyze the historical evolution of information systems in organizations. We will see how the various technological developments have been introduced to the organization and its processes and how this has affected the management department.
Software product lines and information systems portfolio. BPMN Process analysis

Usability and Information systems

Project management, methodologies and approaches

ACTIVITIES

Portfolio

Description:
During the course aspects various theoretical work, case analysis, research and exercises. The results of this work must be submitted by each student in your portfolio. This activity will be evaluated using a rubric.

Specific objectives:
1, 2, 3, 4, 5, 6, 7, 8, 9

Related competencies:
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Presentations

Specific objectives:
1, 2, 6, 7, 8, 9

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Information systems plan

Specific objectives:
3, 4, 5, 6

Related competencies:
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**Examen DGSI**

**Specific objectives:**
1, 2, 5, 6, 7, 8, 9

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**Full-or-part-time:** 2h
Guided activities: 2h

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**GRADING SYSTEM**

Nota Avaluació continuada (AC) = ( Portfoli + Presentació ) 3

Si (AC >= 6) Nota DSGSI = AC
Sino
Nota DSGSI = (AC * 6 + Examen * 4 ) / 10

La nota competencia CB8 = Presentació

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**BIBLIOGRAPHY**

**Basic:**
RESOURCES

Hyperlink:
- https://atenea.upc.edu/moodle/login/index.php