230615 - ITSM - Information Technology Service Management

Coordinating unit: 230 - ETSETB - Barcelona School of Telecommunications Engineering
Teaching unit: 744 - ENTEL - Department of Network Engineering

Academic year: 2018
Degree: MASTER'S DEGREE IN TELECOMMUNICATIONS ENGINEERING (Syllabus 2013). (Teaching unit Optional)
MASTER'S DEGREE IN INFORMATION AND COMMUNICATION TECHNOLOGIES (Syllabus 2009). (Teaching unit Optional)
MASTER'S DEGREE IN NETWORK ENGINEERING (Syllabus 2009). (Teaching unit Optional)

ECTS credits: 5
Teaching languages: English

Teaching staff
Coordinator: JOAN SERRAT
Others: Serrat Fernandez, Juan

Degree competences to which the subject contributes

Specific:
1. Ability to deal with the convergence, interoperability and design of heterogeneous networks with local, access and core networks, as well as with service integration (telephony, data, television and interactive services).
2. Ability to develop, direct, coordinate, and technical and financial management of projects in the field of: telecommunication systems, networks, infrastructures and services, including the supervision and coordination of other's subprojects; common telecommunications infrastructures in buildings or residential areas, including digital home projects; telecommunication infrastructures in transport and environment; with corresponding energy supply facilities and assessment of electromagnetic emissions and electromagnetic compatibility.
3. Ability to model, design, implement, manage, operate, administrate and maintain networks, services and contents
4. Ability to plan networks and decision-making about services and applications taking into account: quality of service, operational and direct costs, implementation plan, supervision, security processes, scalability and maintenance. Ability to manage and assure the quality during the development process
5. Ability to understand and to know how to apply the functioning and organization of the Internet, new generation Internet technologies and protocols, component models, middleware and services

Transversal:
6. ENTREPRENEURSHIP AND INNOVATION: Being aware of and understanding how companies are organised and the principles that govern their activity, and being able to understand employment regulations and the relationships between planning, industrial and commercial strategies, quality and profit.
7. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.
8. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.
9. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.
10. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.
### Learning objectives of the subject

The course is designed as an introduction and practical implementation of Information Technology Service Management (ITSM) and enables the students to understand how an integrated ITSM framework can be utilized to achieve IT business integration, cost reductions and increased productivity. The course will present a best practices framework inspired in the FiTS standard.

**Learning results of the subject:**
- Ability to identify IT services as a means to provide functionality and value to customers in the context of specific case studies.
- Ability to understand the needs and targets of the different stakeholders (service providers, customers, suppliers/partners) in the services value chain.
- Ability to understand the value of a service management framework as a means to help consultants and firms to establish a common understanding to ground a service management approach.
- Ability to understand the service management processes
- Ability to specify the service management system for given customers
- Ability to select the appropriate tools to support a given designed service management solution.

### Study load

<table>
<thead>
<tr>
<th>Total learning time: 125h</th>
<th>Hours large group: 39h</th>
<th>31.20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours medium group: 0h</td>
<td>0.00%</td>
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</tr>
<tr>
<td>Hours small group: 0h</td>
<td>0.00%</td>
<td></td>
</tr>
<tr>
<td>Guided activities: 0h</td>
<td>0.00%</td>
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<tr>
<td>Self study: 86h</td>
<td>68.80%</td>
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</table>
## Content

<table>
<thead>
<tr>
<th>Service management concepts and frameworks</th>
<th>Learning time: 18h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Guided activities: 4h</td>
</tr>
<tr>
<td></td>
<td>Self study : 12h</td>
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</table>

**Description:**

<table>
<thead>
<tr>
<th>Specification of services and business models</th>
<th>Learning time: 18h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Guided activities: 4h</td>
</tr>
<tr>
<td></td>
<td>Self study : 12h</td>
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</tbody>
</table>

**Description:**
Business models with a CANVAS template. Market understanding. The empathy map. Service definition and service portfolio specification. Understanding the organization of the entity that will deliver the services.

<table>
<thead>
<tr>
<th>Specification of requirements of a service management system</th>
<th>Learning time: 18h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Guided activities: 4h</td>
</tr>
<tr>
<td></td>
<td>Self study : 12h</td>
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</tbody>
</table>

**Description:**
Role model. Capability and maturity models. General requirements. Process specific requirements.
### Planning and delivery processes

**Description:**
The processes to be considered under this section are: Service portfolio management, Service level management, Service reporting, Service availability and continuity management, Capacity management, Information security management, Customer relationship management and Supplier relationship management.

For each of the above mentioned processes, the following will be tackled: Objective, key concepts and requirements of each planning and delivery process, Inputs, key activities and outputs of each process. Typical roles involved in the planning and delivery processes. Implementation of these processes for a given case study.

**Learning time:** 36h
- Theory classes: 4h
- Guided activities: 8h
- Self study: 24h

### Operation and control processes

**Description:**
The processes that will be considered in this section are: Incident and service request management, Problem management, Configuration management, Change management, Release and deployment management and Continual service improvement management.

For each one of the above mentioned processes, the following aspects will be tackled: Objective, key concepts and requirements of each process. Inputs, key activities and outputs of each process. Typical roles involved in the operation and control processes. Implementation of these processes for a given case study.

**Learning time:** 27h
- Theory classes: 3h
- Guided activities: 6h
- Self study: 18h

### Service management tools

**Description:**
Tool assessment framework
Analysis of specific ITSM tools
Selection of the tool that best fits a given SMS

**Learning time:** 18h
- Theory classes: 2h
- Guided activities: 4h
- Self study: 12h
# Planning of activities

<table>
<thead>
<tr>
<th>Professor presentations</th>
<th>Hours: 20h</th>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 20h</td>
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**Description:**
The teacher will introduce the concepts, work frameworks and study tools through presentations in class with PowerPoint, which will also be made available to students. These presentations are simply this, the introduction to the topics, but not the exhaustive detail of what must be learned in the course. The learning will be done later by the student through individual and team work.

**Support materials:**
- Presentations and documentation provided by the teacher

<table>
<thead>
<tr>
<th>Workgroup</th>
<th>Hours: 30h</th>
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<tbody>
<tr>
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<td>Guided activities: 30h</td>
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**Description:**
Group work will consist of the interaction between the members of the work group and between them and the teacher in class. This activity is a fundamental tool of learning. In class the teacher will stimulate the participation of all the students. Outside of class the students must jointly solve weekly assignments.

**Support materials:**
- Presentation on the subject and bibliographic references

**Descriptions of the assignments due and their relation to the assessment:**
Each week the delivery of group work will be specified.

**Specific objectives:**
The purpose of the work is to design a specific service management system during the course, which will be deposited in a repository of documents shared with the teacher. The service management system will be progressing weekly until the end of the course.

<table>
<thead>
<tr>
<th>Student presentations</th>
<th>Hours: 10h</th>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 10h</td>
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</table>

**Description:**
The presentation will be made by a student as a spokesperson for his work group. Students will have to present the work developed with their classmates (groups of three or four people).

<table>
<thead>
<tr>
<th>Personal work</th>
<th>Hours: 13h</th>
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<tbody>
<tr>
<td></td>
<td>Self study: 13h</td>
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</table>

**Description:**
Although group work is one of the main instruments, individual work is irreplaceable in reaffirming learning. Each student will have to plan it based on their degree of confidence in the achievement of the subject. It must be kept in mind that the exams will be individual.
Extended answer tests

**Description:**
The partial exam, in the middle of the course, and the final one will consist of practical exercises for the design of a part of a service management system, which will be carried out individually.

Hours: 3h
- Theory classes: 3h

Qualification system

Final examination: 60%
- Partial examinations/controls: 20%
- Group assessments: 20%

Bibliography

Basic:


Complementary: