

Course guide

230654 - IBSM - Innovation-Based Service Management

Last modified: 11/04/2025

Unit in charge: Barcelona School of Telecommunications Engineering
Teaching unit: 732 - OE - Department of Management.

Degree: MASTER'S DEGREE IN TELECOMMUNICATIONS ENGINEERING (Syllabus 2013). (Compulsory subject).
MASTER'S DEGREE IN ADVANCED TELECOMMUNICATION TECHNOLOGIES (Syllabus 2019). (Optional subject).

Academic year: 2025 **ECTS Credits:** 5.0 **Languages:** English

LECTURER

Coordinating lecturer: FRANCESC XAVIER BELLES ROS

Others: Primer quadrimestre:
FRANCESC XAVIER BELLES ROS - 10

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

1. Ability to integrate Telecommunication Engineering technologies and systems, as a generalist, and in broader and multidisciplinary contexts, such as bioengineering, photovoltaic conversion, nanotechnology and telemedicine.
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.

Transversal:

3. 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.
4. 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.
5. 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.
6. 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.
7. 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.

TEACHING METHODOLOGY

- Lectures
- Application classes
- Group work (distance)
- Exercises
- Oral presentations
- Other activities
- Short answer test (Control)
- Short answer test (Test)

LEARNING OBJECTIVES OF THE SUBJECT

Learning objectives of the subject:

The aim of this course is to help students to understand how an organization operates under the rules of a service economy. First, we consider the basics of this kind of economy regarding strategy and innovation. Later on we will discover the differences between quality processes for physical and virtual products, and finally we will analyze the role of people, teams and creativity when knowledge and professional links become the main assets of the companies.

Learning results of the subject:

- Ability to search for information, identify the strategy, and explain the business model of an ICT related company from the information collected.
- Ability to work on a collaborative way to define an sketch of a an ICT organization suitable for the service economy paradigm.
- Ability to understand and apply the most common quality analysis tools and techniques.
- Ability to design a service using the Methodology of Quality Function Deployment.
- Ability to understand leadership process in the organizations

STUDY LOAD

Type	Hours	Percentage
Hours large group	39,0	31.20
Self study	86,0	68.80

Total learning time: 125 h

CONTENTS

1. Service Economy

Full-or-part-time: 18h

Self study (distance learning): 12h

Theory classes: 6h

1.1. Introduction

Description:

- o Theory. What is a service economy? Is it really a new paradigm?
- o Reading and debate. Do services create or destruct jobs?
- o Team arrangement and topic assignment

1.2. Strategy and innovation management

Description:

- o Theory. When long term planning is not anymore a strategic option.
- o Case Study. Hyds UPC Spin off.
- o Team work on one topic. Hypothesis.

2. Service Economy, Technologies and Society

Description:

- o Theory. When technologies impact society. Big data.
- o Reading and discussion: IBM Smart Planet strategy
- o Team work on one topic. Gathering information.

Full-or-part-time: 18h

Theory classes: 6h

Self study : 12h

2.1. Innovative Businesses

Description:

- o Theory: Innovative business models for a new economy.
- o Reading and discussion: reCAPTCHA: Human-Based Character Recognition
- o Team work on one topic. Work on information and knowledge.

3. Opening the business models

Description:

- o Theory: Collaborative consumption and Open Source.
- o Reading and discussion. Fablab and Arduino. From bit to atoms.
- o Team work on one topic. Conclusions on the research.
- o Exercises presentation
- o Assessment through exam or quiz.

Full-or-part-time: 20h

Theory classes: 6h

Self study : 14h

4. Service Marketing and Service Quality. Measuring the quality of Services

Description:

- o What is Service Marketing?
- o Service Quality.
- o The SERVQUAL model.
- o Creating a service quality culture

Full-or-part-time: 18h

Theory classes: 6h

Self study : 12h

5. The Design of Services

Description:

- o Design of Services: The QFD Methodology.
- o The House of Quality. Case Study

Full-or-part-time: 18h

Practical classes: 12h

Theory classes: 6h

6. Organizational Behaviour and Leadership

Description:

The Importance of Organizational Behaviour to Managers

- o 3D model: Organization, Individual behaviour (person) and Group behaviour (work team, leadership)
- Group behaviour: Work team.
- o Group Roles.
- o Characteristics of effective teams

Full-or-part-time: 21h

Theory classes: 9h

Self study : 12h

7. The importance of Leadership in the organizations

Description:

Group behaviour: Evaluating Leadership

- o Managerial Roles
- o Situational Leadership. Theories.

Full-or-part-time: 15h

Theory classes: 3h

Self study : 12h

ACTIVITIES

EXERCISES

Description:

Exercises to strengthen the theoretical knowledge.

ORAL PRESENTATION

Description:

Presentation of a work group.

SHORT ANSWER TEST (CONTROL)

Description:

Mid term control.



SHORT ANSWER TEST (TEST)

Description:

Partial evaluation test with theoretical questions and short exercises.

GRADING SYSTEM

Partial examinations and controls 30%

Exercises: 10%

Individual assessments: 10%

Group assessments: 30%

Attendance 20%

BIBLIOGRAPHY

Basic:

- Morris, L.. Permanent innovation. Walnut Creek (CA): Innovation Academy, 2011. ISBN 9780615522845.
- Palmer, A. Principles of services marketing. 6th ed. Maidenhead: McGraw-Hill Education, 2014. ISBN 9780077152345.
- Gordon, J.R. Organizational behavior: a diagnostic approach. 7th ed. Upper Saddle River, NJ: Prentice Hall, 2002. ISBN 9780130328472.

Complementary:

- Ficalora, J.P.; Cohen, L. Quality function deployment and six SIGMA. 2nd ed. Prentice Hall, 2012. ISBN 9780133364439.
- Harvard Business Review. HBR's 10 must reads on leadership. Harvard Business Review Press, 2011. ISBN 978-1422157978.