# uc3m Universidad Carlos III de Madrid

## Process engineering and management of hospital services

Academic Year: (2020 / 2021) Review date: 11/07/2020 10:24:16

Department assigned to the subject: Bioengineering and Aeroespace Engineering Department

Coordinating teacher: ABELLA GARCIA, MONICA

Type: Compulsory ECTS Credits: 6.0

Year: 1 Semester: 2

#### REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

No recommendations.

#### **OBJECTIVES**

The concepts exposed in this subject will give a global vision of the structural and administrative organization of the general services management of a hospital center, emphasizing on the figure and role of the general services manager. In addition, they will acquire the necessary knowledge about the different management systems that allow the efficient management of processes in the healthcare environment, an aspect in which the engineer will contribute significantly to the improvement of the healthcare system.

#### COMPETENCES THAT THE STUDENT ACQUIRES WITH THIS SUBJECT

CB6. Possess knowledge that provides a base or opportunity to be original in the development and / or application of ideas

CB7. That students know how to apply the knowledge acquired and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study.

CB8. That students are able to integrate knowledge and face the complexity of formulating judgments based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments.

CB10. That the students possess the learning skills that allow them to continue studying in a way that will be largely autonomous.

CG3. Ability to design and carry out technological projects in the field of the application of engineering to medicine, as well as to analyze and interpret their results.

CG4. Ability to evaluate medical equipment and instrumentation in complex multidisciplinary environments, assessing the needs of different clinical users and offering objective measures for decision making.

CE2. Ability to understand and use the statistical methods necessary for conducting scientific studies, evaluation of equipment from the point of view of effectiveness, accreditation for medical use or study of comparative effects in patients.

CE3. Advanced knowledge of health technology management, both in technical and economic aspects, and including the acquisition and maintenance thereof.

## LEARNING RESULTS THAT THE STUDENT ACQUIRES

In overcoming this subject, students should be able to:

- Know the skills and competences of a general services manager in a hospital.
- Ability to use different management systems that allow the efficient management of processes in the healthcare environment.

## DESCRIPTION OF CONTENTS: PROGRAMME

#### The subject content is:

- Direction of general services and engineering of a hospital.
- Contract law.
- Hospital security and surveillance.
- Process engineering.
  - Lean methodology. 0
  - Redesign and improvement of processes. 0

#### LEARNING ACTIVITIES AND METHODOLOGY

#### LEARNING ACTIVITIES

- Theoretical class.
- Theoretical-practical class.
- Seminars and practical visits.
- Tutorials.
- Individual and team work.

### TEACHING METHODOLOGIES

- Exhibitions in the teacher's class with support of computer and audiovisual media, in which the main concepts of the subject are developed and the bibliography is provided to complement the students' learning.
- Resolution of practical cases, problems, etc. raised by the teacher individually or in groups.
- Exhibition and discussion in class, under the teacher's moderation of topics related to the content of the subject, as well as practical cases.
- Preparation of papers and reports individually or in groups.

#### ASSESSMENT SYSTEM

#### % end-of-term-examination/test: 30 % of continuous assessment (assignments, laboratory, practicals...): 70

Continuous assessment: 70%

- Carrying out work, problems and/or practical activities.
- Student participation: It includes contribution to seminars, forum in Aula Global, attitude, classwork (quizzes or exercises to be solved in groups or individually), or other activities.

Final exam: 30%

The final exam will cover the whole subject and will count 30% of the final score. The minimum score in the final exam to pass the subject is 4.0 over 10, notwithstanding the mark obtained in continuous evaluation.

#### Extraordinary exam:

The final score for students who attend the extraordinary exam will be 30% of the extraordinary exam and 70% of the continuous assessment, if available. In case of not presenting continuous assessment, the final score will be 100% the extraordinary exam.

## **BASIC BIBLIOGRAPHY**

- J L Temes Montes; Vicente Pastor y Aldeguer; Josez, Luis Dizaz Fernaz ndez Manual de Gestión Hospitalaria, MCGrawHill, 1997
- José Luis Temes Montes, Mercedes Mengíbar Torres Gestión hospitalaria, 5e, MCGrawHill, 2002

#### BASIC ELECTRONIC RESOURCES

- Asociación Española de Hostelería Hospitalaria . AEHH: http://www.hosteleriahospitalaria.org
- Asociación Española de Ingeniería Hospitalaria . AEIH: http://www.aeih.org