

Academic Year: ( 2019 / 2020 )

Review date: 27-05-2019

Department assigned to the subject: Bioengineering and Aerospace Engineering Department

Coordinating teacher: CUSSO MULA, LORENA

Type: Compulsory ECTS Credits : 3.0

Year : 2 Semester : 1

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

There are no recommendations.

**OBJECTIVES**

Specific competences:

CE13. Ability to plan, manage and supervise hospital infrastructures under quality criteria, in safety conditions and complying with current regulations

Basic or general competences:

CB6. Possess and understand knowledge that provides a basis 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 making 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 its 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.

To overcome this subject, students should be able to:

- Comply with the regulations for the prevention of occupational risks and environmental protection, identifying the associated risks, measures and equipment to prevent them.
- Plan and manage the treatment of waste generated, identifying the pollutants and describing their effects on the environment.
- Apply quality plans in all the processes carried out and supervised, describing the assurance and quality management regulations.
- Evaluate the risks derived from their activity, analyzing the working conditions and the risk factors present in their work environment.
- Participate in the preparation of a risk prevention plan in a small company, identifying the responsibilities of all the agents involved.
- Apply prevention and protection measures, analyzing the situations of risk in the work environment of the superior technician of Clinical Medical
- Plan and manage the treatment of waste generated, identifying the pollutants and describing their effects on the environment.
- Apply quality plans in all the processes carried out and supervised, describing the assurance and quality management regulations.
- Evaluate the risks derived from their activity, analyzing the working conditions and the risk factors present in their work environment.
- Participate in the preparation of a risk prevention plan in a small company, identifying the responsibilities of all the agents involved.

- Apply prevention and protection measures, analyzing the situations of risk in the work environment of the superior technician of Clinical Electromedicine.
- Comply with the regulations for the prevention of occupational risks and environmental protection, identifying the associated risks, measures and equipment to prevent them.
- Recognize the main risks of the patient's environment in a health center, describing their characteristics and the repercussions of them.

## DESCRIPTION OF CONTENTS: PROGRAMME

1. Prevention of Labor Risks
  - 1.1. Introduction to Occupational Risk Prevention and Basic Regulatory Framework
  - 1.2. Risks linked to security conditions
  - 1.3. Risks related to the working environment
  - 1.4. Workload, fatigue and job dissatisfaction
  - 1.5. Basic risk control systems
  - 1.6. Emergency and evacuation plans
  - 1.7. First aid
  - 1.8. Health control in workers
  - 1.9. Management of Occupational Risk Prevention in the company
  - 1.10. Statistical control of occupational accidents
  - 1.11. Notification, registration, investigation and control of work accidents
  - 1.12. Risks evaluation
2. Quality
  - 2.1. Application of control of quality control techniques
  - 2.2. Planning and management of waste treatment
3. Prevention of risks, safety and environmental protection in medical devices
  - 3.1. Identification of risks in equipment and installations associated with medical devices
4. Prevention of occupational risks in the assembly and maintenance processes of medical devices facilities, systems and equipment
  - 4.1. Prevention of risks, safety and environmental protection in special hospital facilities  
Identification of risks in special hospital facilities
  - 4.2. Prevention of occupational risks in the assembly and maintenance processes of special hospital facilities

## LEARNING ACTIVITIES AND METHODOLOGY

The formative activities of the subject are:

- AF1. Theoretical class
- AF2. Practical classes
- AF3. Theoretical-practical class
- AF5. Tutorials
- AF6. Group work
- AF7. Individual student work

The teaching methodologies to be used will be:

- MD1. Exhibitions in the teacher's classroom with computer and audiovisual support, in which the main concepts of the subject are developed and the bibliography is provided to complement the students' learning.
- MD2. Critical reading of texts recommended by the subject teacher: press articles, reports, manuals and/or academic articles, either for later discussion in class, or to expand and consolidate knowledge of the subject.
- MD3. Resolution of practical cases, problems, etc. raised by the teacher individually or in a group.
- MD4. Presentation and discussion in class, under the teacher's moderation of topics related to the content of the subject, as well as practical cases.
- MD5. Elaboration of works and reports individually or in group.

Development and justification:

Theoretical academic sessions: as a means of offering a general and systematic vision of the topics, highlighting the most important aspects of them and interspersing exercises between theoretical explanations when deemed appropriate. These theoretical sessions will be given regularly at the beginning of each topic.

Practical academic sessions: Calculation and analysis of practical cases, in correlation with the theoretical concepts taught.

Seminars: Exhibition and debate of proposed works, organized in seminars, in which the capacities of group work, exhibition, defense and discussion of a topic or work are practiced.

## ASSESSMENT SYSTEM

- SE1. Class participation.
- SE2. Individual or group work carried out during the course.
- SE3. Final test.

Development and justification:

The evaluation of knowledge and competences will be carried out through the realization of problems, practices and works related to the thematic blocks described above.

The evaluation process is based on the student's personal work. The tutored works have a weight of 45% in the final grade of the subject, as long as the final exam grade reaches 4 points out of 10. The active participation in the theoretical and practical classes will assume a weight of 5%.

It is proposed to carry out a theoretical-practical examination, consisting of the interpretation of a series of theoretical questions and the resolution of a certain number of problems. This exam will be given a weight in the final grade of the subject of 50%. The relative weight of each part will be indicated in the test statement.

<b>% end-of-term-examination:</b>	50
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	50