820029 - SHB - Safety in Hospitals

Coordinating unit: 295 - EEBE - Barcelona East School of Engineering
Teaching unit: 460 - INTE - Institute of Energy Technologies
710 - EEL - Department of Electronic Engineering
Academic year: 2017
Degree: BACHELOR’S DEGREE IN BIOMEDICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
BACHELOR’S DEGREE IN BIOMEDICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
ECTS credits: 6
Teaching languages: Catalan, Spanish

Teaching staff
Coordinator: P - PERE JOAN RIU COSTA
Others: P - MERCE GINJAUME EGIDO - MIREYA FERNANDEZ CHIMENO
Nescolarde Selva, Lexa Digna

Requirements
820025 - EMDTB - Monitoring, Diagnostic and Therapeutic Equipment

Degree competences to which the subject contributes

Specific:
1. Manage health and safety in hospitals.

Transversal:
1. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.

Teaching methodology
Expositive Classes, cooperative learning and project based learning

Learning objectives of the subject
Understand the concept of risk and acquire knowledge of the methodologies used to assess risk. Understand the origin of dangers in hospital environments. Understand the relationship between safety and functionality in a medical device. Apply the concept of safety to medical devices and facilities. Identify the applicable standards and legislation. Understand the responsibility of the manufacturer, the installer and the end user with respect to safety in a hospital environment.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 45h</th>
<th>30.00%</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group: 0h</td>
<td>0.00%</td>
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<tr>
<td></td>
<td>Hours small group: 15h</td>
<td>10.00%</td>
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<td></td>
<td>Guided activities: 0h</td>
<td>0.00%</td>
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<tr>
<td></td>
<td>Self study: 90h</td>
<td>60.00%</td>
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## Risk Assessment

### Description:

### Specific objectives:
Understand the concept of risk and the methodologies used to assess it.

### Learning time:
- **Theory classes:** 4h
- **Self study:** 6h

## Sources of risk in hospital environments

### Description:

### Specific objectives:
Understand the relationship between safety and functionality in medical devices. Gain knowledge of the biological basis associated to dangers in hospitals and the different sources of risk.

### Learning time:
- **Theory classes:** 12h
- **Self study:** 16h

## Safety of medical devices

### Description:

### Specific objectives:
Apply the risk concepts to different medical devices

### Learning time:
- **Theory classes:** 8h
- **Laboratory classes:** 6h
- **Self study:** 12h
### Safety of installations

**Learning time:** 30h  
Theory classes: 10h  
Laboratory classes: 4h  
Self study: 16h

**Description:**  

**Specific objectives:**  
Apply the concept of risk to different medical facilities

### Safety Standards

**Learning time:** 10h  
Theory classes: 4h  
Self study: 6h

**Description:**  

**Specific objectives:**  
Be able to identify the relevant standards related to safety of medical devices and facilities.

### Project on risk analysis and safety design of a medical device/facility

**Learning time:** 46h  
Theory classes: 7h  
Laboratory classes: 5h  
Self study: 34h

**Description:**  
Project based learning activity on the analysis of the risk associated with a particular medical device or facility, the design of the safety aspects and the identification of the applicable safety standards

**Related activities:**  
Public presentation of the work performed

**Specific objectives:**  
To be able to synthesize all the aspects related to safety of a medical device or facility
Individual and group work will be assessed by means of tests, assignments and work presentations.
Final exam: 30%
Project: 30%
Lab activities/reports: 20%
Half-term test: 20%

There is NO re-testing in this subject

Bibliography

Basic: