Course guide

240319 - 240NR026 - M-Health Systems

Unit in charge: Barcelona School of Industrial Engineering
Teaching unit: 710 - EEL - Department of Electronic Engineering.
Degree: MASTER'S DEGREE IN NEUROENGINEERING AND REHABILITATION (Syllabus 2020). (Compulsory subject).
Academic year: 2023  ECTS Credits: 3.0  Languages: Catalan

LECTURER

Coordinating lecturer: Ramos Castro, Juan Jose
Others: Ramos Castro, Juan Jose

TEACHING METHODOLOGY

Participatory class
Project-based learning

LEARNING OBJECTIVES OF THE SUBJECT

To introduce the student in the de telemedicine systems for ambulatory or mobile applications. The goal is that the student learns the general structure of m-Health systems, their applications and limitations (technical and legal). In order to carry out this learning the student will have to analyze a practical case, identify the needs and propose a solution based on a telemedicine system.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>27,0</td>
<td>36.00</td>
</tr>
<tr>
<td>Self study</td>
<td>48,0</td>
<td>64.00</td>
</tr>
</tbody>
</table>

Total learning time: 75 h

CONTENTS

Introduction to m-Health systems

Description: content english

Full-or-part-time: 4h
Theory classes: 2h
Self study: 2h
### m-Health sensors

**Description:**
- Health and well-being sensors
- Diagnostic sensors
- Assistive sensors
- Prognostic sensors

**Full-or-part-time:** 4h
- Theory classes: 2h
- Self study: 2h

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### m-Health and mobile communication systems

**Description:**
- Wireless data transmission
- EM wave propagation
- Modulation
- Mobile Networks and Wireless Technologies for m-Health
- IoT and M2M Communications for Healthcare

**Full-or-part-time:** 5h
- Theory classes: 3h
- Self study: 2h

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### Regulatory aspects of m-health systems

**Description:**
- Telemedicine in EU
- Legal aspects
- Data protection

**Full-or-part-time:** 4h
- Theory classes: 2h
- Self study: 2h

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### The future of m-Health care systems

**Description:**
- content english

**Full-or-part-time:** 4h
- Theory classes: 2h
- Self study: 2h
GRADING SYSTEM

25% Continuous grading (project results)
50% Project grading (35% team work, 15% peer evaluation)
25% Final exam

BIBLIOGRAPHY

Basic:

Complementary: