230372 - SATT - Seminar on Advanced Telecommunication Technologies

Coordinating unit: 230 - ETSETB - Barcelona School of Telecommunications Engineering
Teaching unit: 744 - ENTEL - Department of Network Engineering

Academic year: 2019
Degree: MASTER'S DEGREE IN TELECOMMUNICATIONS ENGINEERING (Syllabus 2013). (Teaching unit Optional)
MASTER'S DEGREE IN ADVANCED TELECOMMUNICATION TECHNOLOGIES (Syllabus 2019). (Teaching unit Optional)

ECTS credits: 3
Teaching languages: English

Teaching staff
Coordinator: Marcos Postigo

Degree competences to which the subject contributes

Specific:
CE1. Ability to apply information theory methods, adaptive modulation and channel coding, as well as advanced techniques of digital signal processing to communication and audiovisual systems.
CE2. Ability to develop radio-communication systems: antennas design, equipment and subsystems, channel modeling, link dimensioning and planning.
CE3. Ability to implement wired/wireless systems, in both fix and mobile communication environments.
CE4. Ability to design and dimension transport, broadcast and distribution networks for multimedia signals.
CE5. Ability to design radio-navigation and location systems, as well as radar systems.
CE6. Ability to model, design, implement, manage, operate, administrate and maintain networks, services and contents.
CE7. Ability to plan networks and decision-making about services and applications taking into account: quality of service, operational and direct costs, implementation plan, supervision, security processes, scalability and maintenance. Ability to manage and assure the quality during the development process.
CE8. Ability to understand and to know how to apply the functioning and organization of the Internet, new generation Internet technologies and protocols, component models, middleware and services.
CE9. Ability to deal with the convergence, interoperability and design of heterogeneous networks with local, access and core networks, as well as with service integration (telephony, data, television and interactive services).
CE10. Ability to design and manufacture integrated circuits.
CE11. Knowledge of hardware description languages for high-complex circuits.
CE12. Ability to use programmable logical devices, as well as to design analog and digital advanced electronics systems. Ability to design communication devices, such as routers, switches, hubs, transmitters and receivers in different bands.
CE13. Ability to apply advanced knowledge in photonics, optoelectronics and high-frequency electronic.
CE14. Ability to develop electronic instrumentation, as well as transducers, actuators and sensors.
CE15. 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.
CE16. 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
Quite often, visiting professors, researchers, entrepreneurs or other relevant people offer conferences or short courses, also, from time to time, the ETSETB organize interesting activities. All of them very worth for our master students. This seminar is a way to collect this activities and make it count as a part of our students academic curriculum.

Therefore, each of these activities taken by master students, will be registered in the academic office, and when one student reaches 75 hours of activities, he or she can recognize them enrolling this seminar as an elective subject. This seminar can only be enrolled once.

The recognized time for activities is:
- Recognized time for conferences = conference duration.
- Recognized time for short courses without qualification system = 2 * short course duration * attendance percentage.
- Recognized time for short courses without qualification system = 3 * Short course duration * attendance percentage.
- Recognized time for other activities = depends on the activity and it is established by Head of Master Studies.

Learning results of the subject:
- Any related to telecommunications and electronics engineering, entrepreneurship innovation, sustainability and social commitment.
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Study load

<table>
<thead>
<tr>
<th>Total learning time: 75h</th>
<th>Hours large group: 24h</th>
<th>Self study: 51h</th>
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<tbody>
<tr>
<td></td>
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<td>32.00%</td>
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<tr>
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<td>68.00%</td>
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Content

1. Telecommunications and electronics engineering, entrepreneurship innovation, sustainability and social commitment activities.

Learning time: 75h
Guided activities: 75h

Description:
- Conferences
- Short courses
- Activities organized by ETSETB

Qualification system

The final mark is established by averaging all marks of the different activities weighted according to their recognized time. Activities without qualification system will be qualified with 10 over 10. Activities with qualification system may use: tests, exercises, individual or group works assessments and laboratory assessments.

Bibliography