## Program

| 09AQ-Master in Telecommunication Engineering |

## Course number and name

| Number | 93000797 |
| Name   | Communication Networks  
Redes de comunicaciones |
| Semester | 1Y-1S |

## Credits and contact hours

| ECTS Credits | 6 |
| Contact hours | 48 |

## Coordinator's name

| Francisco González Vidal |

## Specific course information

### Description of course content

It aims to train students to address the design of communications networks, taking into account parameters such as the services to be offered, the quality of them, the characteristics of network technologies available, regulatory and economic aspects as well as to anticipate evolution.

### List of topics to be covered

- Network Model. Access, Metro, Edge, Core, Management and control. Present and convergence.
- Market requirements. User characterization and traffic demand. Quality of service.
- Technologies: xDSL, FTTx, Wireless, Optical transport networks, control: IMS.

### Prerequisites or co-requisites

Equivalent to ITC BS degrees.

### Course category in the program

| X  R (required) | _  E (elective) | __  SE (selective elective) |

## Specific goals for the course

### Specific outcomes of instruction

- RA1. The student is able to understand the architecture of a communication network, identify its segments, elements and orders of magnitude of their numbers and capacities.
- RA2. The student is able to apply the elements of the architectural model to deployments of specific technologies.
- RA3. The student understands and is able to quantify the main parameters that define the communication networks, with a cost/quality balance and is able to apply...
dimensioning communication networks
RA4. The student is able to do teamworking, for designing, sizing, selecting real equipment, plan the deployment and estimate the cost of a communication network in a real demographic area
RA5. The student is able to understand the structure, features and capabilities of optical transport networks and recognize these elements in real examples
RA6. The student is able to understand the structure, components and networking capabilities of core routing and recognize these elements in real examples
RA7. The student understands the corresponding control paradigms existing network structures and is able to compare and evaluate the performance of similar services on different networks

<table>
<thead>
<tr>
<th>Student outcomes addressed by the course</th>
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<tbody>
<tr>
<td>CB1, CB2, CB3, CB4, CB5, CT2, CT3, CT4, CT5, CT6, CE4, CE6, CE7, CE8, CE9</td>
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</tbody>
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**Bibliography and supplemental materials**


Course Moodle page

**Teaching methodology**

<table>
<thead>
<tr>
<th>X lectures</th>
<th>___ problem solving sessions</th>
<th>X collaborative actions</th>
<th>___ laboratory sessions</th>
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Other: