11522 - XSSC (T) - Communication Networks, Systems and Services

Coordinating unit: 230 - ETSETB - Barcelona School of Telecommunications Engineering
Teaching unit: 744 - ENTEL - Department of Network Engineering
Academic year: 2015
Degree: DEGREE IN TELECOMMUNICATIONS ENGINEERING (Syllabus 1992). (Teaching unit Compulsory)
MASTER'S DEGREE IN ELECTRONIC ENGINEERING (Syllabus 2009). (Teaching unit Optional)
MASTER'S DEGREE IN NETWORK ENGINEERING (Syllabus 2009). (Teaching unit Optional)
DEGREE IN ELECTRONIC ENGINEERING (Syllabus 1992). (Teaching unit Optional)
Credits: 6

Prior skills


Requirements

Teaching methodology

Learning objectives of the subject

## Content

1. Introduction to communication networks. and general concepts on networks, systems and telecommunications services. (4 hours)

   Degree competences to which the content contributes:

2. Routing. Classification: Centralized or distributed statistical and adaptive methods. Multiple (bifurcated) routing. (10 hours)

   Degree competences to which the content contributes:

3. Dimensioning of the backbone network. Distribution policy; assignation of capacities. Cuts. Delays (10 hours)

   Degree competences to which the content contributes:

4. Examples of networks and protocols. Wide area networks X-25, ISDN, Frames relay, ATM. Local Area Networks: Ethernet, token-ring. TCP/IP interconnection protocols. (8 hours)

   Degree competences to which the content contributes:


   Degree competences to which the content contributes:

6. Multiple access. Deterministic and random methods: probes, token, Aloha, CSMA, CSMA/ cd, reserve, etc. (8 hours)

   Degree competences to which the content contributes:

## Qualification system

Evaluation % Weight
Test 40%
Final exam 60%
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**Regulations for carrying out activities**

**Bibliography**

**Basic:**


**Complementary:**


**Others resources:**

"Problemas Resueltos de Redes, Sistemas y Servicios de Comunicación", L. de la Cruz, J. García, J. Mata, J.L. Melús, E. Pallarès y E. Sanvicente, Ediciones UPC