

DTC-GITT-321 Computer Network Architecture

SEMESTER: Spring
CREDITS: 7.5 ECTS (5 hrs. per week. 3h Theory + 2h Lab)
LANGUAGE: Spanish
DEGREES: 3º GITT

Course overview

The aim of the course is to provide students with knowledge network architectures, focusing on the family of TCP / IP protocols, allowing manage the requirements and functionality defined in the network and transport layers, as well as the main services of the application layer.

Prerequisites

Basic knowledge of Computer Network Technologies.

Course contents

Theory:

1. Internetworking basics.
2. The network layer in the Internet.
3. TCP/IP overview. 4. Routing tables and subnetting.
4. IP and ICMP protocols.
5. Address Resolution Protocols
6. TCP/IP routing protocols.
7. Internet Protocol Version 6.
8. UDP protocol.
9. TCP protocol.
10. TCP/IP Application Layer.

Laboratory:

There will be six 2-hour sessions between the third and the last lecture week, including the lab exam.

- P1. Cabling a network and basic router configuration.
- P2. Challenge VLSM calculation and addressing design.
- P3. Basic Static-Route configuration.

- P4.** RIP configuration. 5. RIPv2 troubleshooting.
- P5.** EIGRP configuration.
- P6.** OSPF configuration.
- P7.** TCP/IP packet analysis.
- P8.** TCP/IP Servers I.
- P9.** TCP/IP Servers II.

Textbook

- Odom Wendell. "Cisco press:Ccna Icnd 2. Guía oficial para el examen de certificación", 2ª edición. Pearson Educación, 2008.
- TCP/IP RFCs: [http:// http://www.rfc-editor.org/](http://www.rfc-editor.org/)

Grading

The following conditions must be accomplished to pass the course:

- A minimum grade in the final exam of 5 over 10.

The overall grade is obtained as follows:

- Final exam 50%.
- Lab exam 30%.
- Other exams 20%. Typically there is 1 mid-term exam (2-hour long) and 2 additional short exams (1-hour long).