Centre	**University College of Engineering of Vitoria-Gasteiz**
Name of subject	**26019 – Introduction to Computer Networks**
Qualification	**Degree in Computer Management and Information Systems Engineering**
Type	**Compulsory**
Credits	**6 ECTS**
Year	**2**
Term(s)	**1st**
Department	**Systems and Automation Engineering**
Language	**Spanish**

Outcomes / Objectives

Fundamentals of data communication, computer networks, network applications and services, with a functional and descriptive approach.

Syllabus

Introduction. Internet structure. Network architectures and protocols. Information theory. Local networks, access networks, backbone networks. Description of the most common network technologies and their areas of application. Fundamentals of IP, addressing and routing. End-to-end communication protocols. Computer addressing mechanisms. Mechanisms for exchanging routing information. Transport service. Communication between applications. Applications on the web. DNS, web, email, IP telephony. Basic applications for web operation, and most common web applications. Security on the web. Introduction to the problem of security in networks, including some practical solutions. Local networks, access networks, backbone networks. Description of the most common network technologies and their areas of application. Physical principles of data transmission. Characterisation of transmission media. Frequency-division and time-division multiplexing of a medium. Physical principles of data transmission. Characterisation of transmission media. Frequency-division and time-division multiplexing of a medium.

Methodology

Teaching Method

Face-to-Face Teaching Hours

Lectures	Seminars	Classroom practice	Lab. practice	Computer sessions	Clinical practice	Workshops	Industrial workshops	Field practice
40			20					

Student Hours of Non Face-To-Face Activities

Lectures	Seminars	Classroom practice	Lab. practice	Computer sessions	Clinical practice	Workshops	Industrial workshops	Field practice
60			30					

Assessment System

General criteria

Clarification regarding assessment

Bibliography

Basic Bibliography

Computer Networks 4th Ed. A.S. Tanenbaum. Prentice Hall PTR, 2002.

Data and Computer Communications, 8th ed. W. Stallings. Prentice Hall 2007.

Computer Networking: A Top-Down Approach, 4th ed. J.F. Kurose and K.W. Ross. Addison-Wesley 2008

In-depth Bibliography

Halsall, Fred.: Redes de computadores e Internet, 5th ed. Addison-Wesley, 2006.

Comer, Douglas E.: El libro de Internet. Prentice Hall, 1995.

William Stallings: Business Data Communications, 6th ed. Prentice Hall, 2009

Websites

➢ http://authors.phptr.com/tanenbaumcn4/http://es.wikipedia.org