

Course Unit Description - (INGRE)

(Network Management and Interconnection)

(Mestrado em Engenharia Electrotécnica e de Computadores)

Academic year: 2009/2010



Subject group: Electrónica e Telecomunicações

	Semestral	Compulsory	
Mode of study	Diurno	Hours/Week	T-Teórica 2
Year	1 ^o		PL-Prática-Laboratorial 2
Semester	1 ^o		OT-Orientação Tutorial 1

ECTS 6

Objectives

The main objective of this course is to complement the knowledge on Computer and Data Networks giving an integrated vision of network interoperability.
The main architecture models, technologies and solutions used for TCP/IP internetworking will be presented.

Course Contents

- Internetworking main problems
- TCP/IP model
- Internet Protocol: Main concepts; IP Addresses; Routing; IP Mobility; IPv6
- Control Protocols: ICMP, ARP, RARP, BOOTP, DHCP
- Transport Protocols: TCP, UDP
- Application Protocols: HTTP, SMTP, POP3, FTP, DNS, SNMP
- Troubleshooting
- Routing Protocols
- Security
- Management Protocols
- Multimedia Communications

Recommended reading

- Computer Networks, Andrew Tanenbaum, Prentice-Hall (4th Edition, 2002)
- Data and Computer Communications, William Stallings, Prentice-Hall (8th Edition, 2006)
- TCP/IP Illustrated: The Protocols, Richard Stevens, Prentice-Hall
- Internetworking with TCP/IP, Douglas Comer, Prentice Hall
- TCP/IP Network Administration, Craig Hunt, O'Reilly, 3rd Edition
- TCP/IP Tutorial and Technical Overview, IBM redbooks, Adolfo Rodriguez, John Gatrell, John Karas, Roland Peschke, 7th edition, 2001
- Engenharia de Redes Informáticas, Edmundo Monteiro e Fernando Boavida, FCA, 7ª edição
- Documentation provided by the teacher

Teaching Methods

The course has three different types of classes: T, OT and L.
In the T classes the students will be presented theoretical topics with practical examples. Some extra pointers will be provided to enable students to enlarge their knowledge autonomously.
In the OT classes, some problems on network planning, configuration and management will be discussed. Students will get some pre-solved problems so that they can check their own resolutions.
In the L classes some assignments will be proposed. Students will not be provided the solutions for the problems proposed. They should, then, prepare the classes in advance so that they can discuss with the teacher the solution for each topic.

Assessment methods

Some micro-exams will be done during classes without previous knowledge of the students.
The results of these exams will have a height of 30% in the final classification if the student does, at least, 75% of them.
Otherwise the final examination will have a height of 100%.
For the students that attend 100% of these micro-exams, the worst result will be eliminated for the calculation of the final classification.
Students wanting to improve their final classification shall do an examination weighting 100%.

	Name
Teacher responsible:	Paula Maria Marques Moura Gomes Viana (PMV)
Lecturer:	Paula Maria Marques Moura Gomes Viana (PMV) Rui Filipe Marques Chibante (RMC)