SUBJECT TEACHING GUIDE

884 - Internet Architure and Mobile Networks

Master's Degree in Business and Information Technologies

Academic year 2023-2024

1. IDENTIFYING DATA

Degree	Master's Degree in Business and Information Technologies		Type and Year	Compulsory. Year 1
Faculty	Faculty of Economics and Business Studies			
Discipline	Obligatory Subjects			
Course unit title and code	884 - Internet Architure and Mobile Networks			
Number of ECTS credits allocated	2,5	Term	Semester based (1)	
Web				
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA DE COMUNICACIONES
Name of lecturer	JORGE LANZA CALDERON
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Other lecturers	

3.1 LEARNING OUTCOMES

- Knowledge of basic concepts to understand the main mechanisms that make possible the implementation of services and applications in the Internet
- Understanding of the most common TCP/IP applications, such as HTTP, FTP, e-mail.
- Knowledge of the wireless technologies that provide Internet access for terminals and mobile networks
- Knowledge of basic concepts on security, mainly in wireless networks

4. OBJECTIVES

Knowledge of the basic mechanisms that explain Internet underlying operation
Understanding of TCP/IP protocol stack
Knowledge of the main TCP/IP applications protocols
Knowledge of the main wireless technologies that provide access to the Internet
Knowledge of the main wireless technologies WLANs and WPANs
Knowledge of the main basic procedures for secure access to the Internet

6. COURSE ORGANIZATION

CONTENTS	
1	Services and applications
2	Cellular networks
3	Wireless LANs
4	Secured enviroments

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Practical work	Laboratory evaluation	No	Yes	20,00
Final exam It is required to obtain a mark above 5.0	Written exam	Yes	Yes	80,00
TOTAL				100,00

Observations
NOTA = THEOR * 0.8 + PRAC * 0.2 Practices or laboratory work is compulsory, and must be done in order to pass the subject.

Observations for part-time students
Part-time students should contact the teacher to comment on the details regarding the evaluation method. In any case, in general, similar criteria will be applied to the evaluation method for students on a full-time basis, looking for alternatives to facilitate the practical activities.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

F. Halsall, Data Communications, Computer Networks and Opens Systems, (4ª edición), Addison Wesley,1996.
F. Halsall, Computer Networking and the Internet, (5ª edición), Addison Wesley, 2005

A.S. Tannenbaum, Computer Networks, (5ª edición), Prentice-Hall, 2011.

D.E.Comer, Internetworking withTCP/IP, Prentice-Hall, 1991.

M. Gast, 802.11 Wireless Networks: The definitive guide, O´Reilly, 2005.

W.R. Stevens, TCP/IP ilustrated. The protocols. Vol I, Addison Wesley, 1994.

Sarikaya, B.: Principles of Protocol Engineering and ConformanceTesting , Ellis Horwood, 1993.

Kumar, A.; Manjunath, D.; Kuri, J: Communication Networking, Morgan Kaufmann, 2004.

Dally,W.J.; Towles, B.: Principles and Practices of Interconnection Networks, Morgan Kaufmann, 2004.

Perlman, R.: Interconnections. Second Edition. Bridges, Routers, Switches, and Internetworking Protocols, Addison- Wesley, 2000.

W. Stallings, L. Brown, Computer Security: Principles and Practice, Prentice Hall, 2007

Siegmund M. Redl, Matthias K. Weber; Malcolm W. Oliphant; An Introduction to GSM; Editorial: Artech House. 1995