Program	09TT- Engineering in Telecommunication Technologies and Services

Course number and name

Number	95000051
Name	Security in Telecommunication Networks and Systems Seguridad en sistemas y redes de telecomunicación
Semester	Y4-S7

Credits and contact hours

ECTS Credits	4.5
Contact hours	45

Coordinator's name	Víctor A. Villagrá

Specific course information

Description of course content
A course focused on the different topics related to the security in telecommunication networks, including risk assessment, cryptography, and network security services.
List of topics to be covered
1.- Cryptograhy and Digital Signatures, 2.- Risk Assesment and Security Management 3.- Network Vulnerabilities and Threats 4.- Access Control Security Services 5.- Communication Security Services
Prerequisites or co-requisites
None, but it will be assumed that the students have previous knowledge on communication networks and operating systems.

Course category in the program

__ R (required)	__ E (elective)	_X_ SE (selective elective)

Specific goals for the course

Specific outcomes of instruction
RA1 – Understand the need of security in telecommunication networks and services as part of their design and deployment. RA2- - Being able of fulfilling a security policy and services based on a previous risk assessment. RA3 – To know the main cryptographic symmetrical and asymmetrical techniques and its application to the communications networks and services. RA4 - To know the main technological and human threats to the telecommunication networks and services RA5 – To identify and categorize the different security services, depending on the protected assets. RA6 – To understand the main security services for access control: authentication and

defence perimeter.

RA7 – To understand and analyse different security protocols, and the application of cryptographic techniques in the communications.

Student outcomes addressed by the course

CG1-13,
CECT1, CECT6
CE-TL1, CE-TL2, CE-TL3, CE-TL4, CE-TL5, CE-TL6

Bibliography and supplemental materials
- W. Stallings. "Cryptography and Network Security: Principles and Practice". 6 Edition. Prentice Hall. 2013. - B. Schneier. "Applied Cryptography". John Wiley & Sons. 2ª ed. 1995. http://www.wiley.com/ - W. Chesswick, S. Bellovin & A. Rubin. "Firewalls and Internet Security". Addison-Wesley, 2ª Edición 2003. - "Criptografía y Seguridad en Computadores". M. J. Lucena. 4 Edicion. Marzo 2010. - WEB: http://moodle.dit.upm.es

Teaching methodology			
_X_ lectures	_X_ problem solving sessions	_X_ collaborative actions	_X_ laboratory sessions
Other:			