



GENERAL INFORMATION

Data of the subject	
Subject name	Security in Communications Systems
Subject code	DTC-MIT-512
Main program	
Involved programs	Máster Universitario en Ingeniería de Telecomunicación [Primer Curso] Grado en Administración y Dirección de Empresas y Máster Univ. en Ingeniería de Telecomunicación [Quinto Curso] Máster Universitario en Ingeniería de Telecomunicación y Máster en Ciberseguridad [Primer Curso] Máster Universitario en Ingeniería de Telecomunicación y Mást. Univ. en Administración de Empresas [Primer Curso] Máster Universitario en Ingeniería de Telecomunicación + Máster Big Data.Tecnología y Anal. Avanzada [Primer Curso]
Level	Postgrado Oficial Master
Quarter	Semestral
Credits	4,5 ECTS
Type	Obligatoria
Department	Department of Telematics and Computer Sciencies
Coordinator	Rafael Palacios
Office hours	Contact Prof. by email

Teacher Information	
Teacher	
Name	Ángel Prado Montes
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Teacher	
Name	Javier Jarauta Sánchez
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DESCRIPTION OF THE SUBJECT

Contextualization of the subject
Prerequisites
Previous knowledge is required on network communications, web applications, and introduction to cryptography.
Some programming skills are required for lab practices and exercises in class.

Course contents

Contents

Chapter 1: Introduction and course overview
 Chapter 2: Browser and HTTP/HTTPS fundamentals
 Chapter 3: Security Architecture and Security Analysis Methodologies
 Chapter 4: Attacks against the applications layer, and defenses
 Chapter 5: Advanced Persistent Threats. Common web vulnerabilities, and pentesting
 Chapter 6: Attacks against SSL/HTTPS and defenses
 Chapter 7: More advanced side-channel attacks
 Chapter 8: Mobile devices security
 Chapter 9: Security Management Systems
 Chapter 10: Security monitoring and computer forensics
 Chapter 11: Policies and security governance (Recovery and Resiliency)
 Chapter 12: Information trust and regulatory compliance (certification and standards)
 Chapter 13: Conclusion, Guest lecture and/or open research discussion

EVALUATION AND CRITERIA

Evaluation activities	Evaluation criteria	Weight
Final Exam: 50% Tests: 20%	Knowledge of the subject Capability to apply suitable tools to solve problems	70
Labs evaluation	Knowledge of the subject Capability to apply suitable tools to solve problems	30

Grading

Exams 70%

- 50% Final exam
- 20% Tests

Labs evaluation 30%

- 20% Lab reports
- 10% Active participation in class

July Exam (retake)

- 80% Retake Exam



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CIHS

Syllabus
2021 - 2022

- 20% Labs

BIBLIOGRAPHY AND RESOURCES

Basic References

- John R. Vacca, Managing Information Security, Second Edition -<http://www.amazon.com/Managing-Information-Security-Second-Edition/dp/0124166881>
- Michal Zalewski ,The Tangled Web: A Guide to Securing Modern Web Applications<http://www.amazon.com/The-Tangled-Web-Securing-Applications/dp/1593273886>

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