



## GENERAL INFORMATION

| Data of the subject |  |
|---------------------|--|
| Subject name        | Security in Communications Systems   |
| Subject code        | DTC-MIT-512  |
| Mainprogram         |  |
| Involved programs   | Máster Universitario en Ingeniería de Telecomunicación [Primer Curso]<br>Grado en Administración y Dirección de Empresas y Máster Univ. en Ingeniería de Telecomunicación [Quinto Curso]<br>Máster Universitario en Ingeniería de Telecomunicación y Máster en Ciberseguridad [Primer Curso]<br>Máster Universitario en Ingeniería de Telecomunicación y Mást. Univ. en Administración de Empresas [Primer Curso]<br>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                              |
| Department          | Department of Telematics and Computer Sciencies |
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| Teacher             |   |
| Name                | Javier Jarauta Sánchez                          |
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## DESCRIPTION OF THE SUBJECT

| Contextualization of the subject  |
|---|
| <b>Prerequisites</b>  |
| 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: 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%<br>Tests: 20% | Knowledge of the subject<br>Capability to apply suitable tools to solve problems | 70     |
| Labs evaluation               | Knowledge of the subject<br>Capability to apply suitable tools to solve problems | 30     |

### Grading

#### Exams 70%

- 50% Final exam
- 20% Tests



# COMILLAS

UNIVERSIDAD PONTIFICIA

ICAI

ICADE

CIHS

**Syllabus  
2020 - 2021**

### Labs evaluation 30%

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

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### July Exam (retake)

- 80% Retake Exam
- 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>

In compliance with current regulations on the **protection of personal data**, we would like to inform you that you may consult the aspects related to privacy and data [that you have accepted on your registration form](#) by entering this website and clicking on "download"

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