

## Course guide

### 340681 - SMAC - Smart Cities

**Last modified:** 03/04/2024

**Unit in charge:** Vilanova i la Geltrú School of Engineering  
**Teaching unit:** 701 - DAC - Department of Computer Architecture.

**Degree:** BACHELOR'S DEGREE IN INFORMATICS ENGINEERING (Syllabus 2018). (Optional subject).

**Academic year:** 2024    **ECTS Credits:** 6.0    **Languages:** Catalan

#### LECTURER

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**Coordinating lecturer:** Jordi Garcia

**Others:**

#### PRIOR SKILLS

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#### REQUIREMENTS

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#### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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**Specific:**

I\_CECO4. CECO4. Ability to learn basics, paradigms and techniques of intelligent systems and analyze, design and build systems, services and computing applications that use these techniques in any scope.

I\_CEFB5. CEFB5. Knowledge of informatic systems, its structure, function and interconnection, as well as fundamentals of its programming.

I\_CEFC1. CEFC1. Ability to design, develop, select and value applications and informatic systems affirming its reliability, security and quality corresponding to ethical principals and legislation and current rules.

I\_CEFC11. CEFC11. Knowledge and application characteristics, functions and structure of Distributed Systems, Computer Networks and the Internet and design and implement applications based on them.

I\_CEFC15. CEFC15. Knowledge and application of basic principles and techniques of intelligent systems and their practical application.

I\_CEFC2. CEFC2. Ability to plan, conceive, develop, manage informatic projects, services and systems in all areas, leading their implementation and continuous improvement assassing their economic and social repercussions.

I\_CESI4. CESI4. Ability to understand and apply the principles and practices of organizations, so they can be interfaces between communities and technical management of an organization and actively participate in the training of users.

#### Transversal:

01 EIN. ENTREPRENEURSHIP AND INNOVATION: Knowing about and understanding how businesses are run and the sciences that govern their activity. Having the ability to understand labor laws and how planning, industrial and marketing strategies, quality and profits relate to each other.

02 SCS. SUSTAINABILITY AND SOCIAL COMMITMENT. Being aware of and understanding the complexity of social and economic phenomena that characterize the welfare society. Having the ability to relate welfare to globalization and sustainability. Being able to make a balanced use of techniques, technology, the economy and sustainability.

CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

CT5. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.

## TEACHING METHODOLOGY

## LEARNING OBJECTIVES OF THE SUBJECT

## STUDY LOAD

Type	Hours	Percentage
Hours small group	30,0	20.00
Hours large group	30,0	20.00
Self study	90,0	60.00

**Total learning time:** 150 h

## CONTENTS

### 1. Introducció al concepte de Smart City

#### Description:

content english

**Full-or-part-time:** 2h

Theory classes: 2h

### 2. Les ciutats del futur

#### Description:

content english

**Full-or-part-time:** 2h

Theory classes: 2h

### 3. IoT: Sensors i actuadors

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

### 4. Xarxes de sensors

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

### 5. Centres de dades

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

### 6. Serveis intel·ligents

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

### 7. Smart environment

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

### 8. Smart mobility

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

## 9. Smart living

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

## 10. Smart energy

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

## 11. Smart government

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

## 12. Desplegament de serveis intel·ligents

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

## 13. Sostenibilitat, resiliència, seguretat

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

## 14. Open data

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h



### 15. Politiques de gestió per a les Smart Cities

**Description:**

content english

**Full-or-part-time:** 2h

Theory classes: 2h

## GRADING SYSTEM

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