

## Course guide

### 330412 - IAE - Informatics for Engineering

Last modified: 28/04/2025

**Unit in charge:** Manresa School of Engineering  
**Teaching unit:** 750 - EMIT - Department of Mining, Industrial and ICT Engineering.  
**Degree:** BACHELOR'S DEGREE IN MINING ENGINEERING (Syllabus 2016). (Compulsory subject).  
**Academic year:** 2025    **ECTS Credits:** 4.5    **Languages:** Catalan, Spanish

#### LECTURER

---

**Coordinating lecturer:** Piney Da Silva, Jose Ramon

**Others:**

#### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

---

**Specific:**

1. Basic knowledge on the use and programming of computers.
2. Operating systems, databases and computer programs with applications in engineering.

**Transversal:**

3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
4. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
5. EFFECTIVE USE OF INFORMATION RESOURCES - Level 2. Designing and executing a good strategy for advanced searches using specialized information resources, once the various parts of an academic document have been identified and bibliographical references provided. Choosing suitable information based on its relevance and quality.
6. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.

#### TEACHING METHODOLOGY

---

#### LEARNING OBJECTIVES OF THE SUBJECT

---

#### STUDY LOAD

---

Type	Hours	Percentage
Hours medium group	45,0	40.00
Self study	67,5	60.00

**Total learning time:** 112.5 h

## CONTENTS

---

### title english

**Description:**

content english

**Full-or-part-time:** 11h 30m

Theory classes: 3h

Laboratory classes: 1h 30m

Self study : 7h

### title english

**Description:**

content english

**Full-or-part-time:** 14h 30m

Theory classes: 4h

Laboratory classes: 2h

Self study : 8h 30m

### title english

**Description:**

content english

**Full-or-part-time:** 11h 30m

Theory classes: 3h

Laboratory classes: 1h 30m

Self study : 7h

### title english

**Description:**

content english

**Full-or-part-time:** 14h 30m

Theory classes: 4h

Laboratory classes: 2h

Self study : 8h 30m

### title english

**Description:**

content english

**Full-or-part-time:** 11h 30m

Theory classes: 3h

Laboratory classes: 1h 30m

Self study : 7h



#### title english

**Description:**

content english

**Full-or-part-time:** 11h 30m

Theory classes: 3h

Laboratory classes: 1h 30m

Self study : 7h

#### title english

**Description:**

content english

**Full-or-part-time:** 14h 30m

Theory classes: 4h

Laboratory classes: 2h

Self study : 8h 30m

#### title english

**Description:**

content english

**Full-or-part-time:** 11h 30m

Theory classes: 3h

Laboratory classes: 1h 30m

Self study : 7h

#### title english

**Description:**

content english

**Full-or-part-time:** 11h 30m

Theory classes: 3h

Laboratory classes: 1h 30m

Self study : 7h

## ACTIVITIES

#### name english

**Full-or-part-time:** 12h

Theory classes: 12h



**name english**

**Full-or-part-time:** 12h

Theory classes: 12h

**name english**

**Full-or-part-time:** 23h

Self study: 10h

Laboratory classes: 13h

**name english**

**Full-or-part-time:** 15h

Self study: 15h

**name english**

**Full-or-part-time:** 20h

Self study: 20h

**name english**

**Full-or-part-time:** 21h

Self study: 15h

Theory classes: 4h

Laboratory classes: 2h

**name english**

**Full-or-part-time:** 9h 30m

Self study: 7h 30m

Theory classes: 2h

## GRADING SYSTEM

---



## BIBLIOGRAPHY

---

### Basic:

- Downey, Allen. Python for software design: how to think like a computer scientist [on line]. Cambridge: Cambridge University, 2009 [Consultation: 09/11/2020]. Available on: <http://openbookproject.net/thinkcs/python/english3e/>. ISBN 9780521725965.
- Pilgrim, Mark. Dive into Python [on line]. 2nd. New York: Apress, 2009 [Consultation: 06/11/2020]. Available on: <http://www.diveintopython3.net/>. ISBN 9781430224150.
- Guzdial, Mark; Ericson, Barbara. Introduction to computing & programming in Python: a multimedia approach [on line]. 2nd ed. Upper Saddle River [etc.]: Pearson/Prentice Hall, cop. 2010 [Consultation: 31/05/2022]. Available on: <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?docID=5185706>. ISBN 9780136060239.