



Universitat de Lleida

DEGREE CURRICULUM  
**PROGRAMMING AND  
COMMUNICATIONS III**

Academic year 2015-16

## Subject's general information

<b>Subject name</b>	PROGRAMMING AND COMMUNICATIONS III
<b>Code</b>	102135
<b>Semester</b>	2nd Q Continuous Assessment
<b>Typology</b>	Optional
<b>ECTS credits</b>	6
<b>Groups</b>	1
<b>Theoretical credits</b>	0
<b>Practical credits</b>	0
<b>Office and hour of attention</b>	Teaching by CCIA professor in hiring process.
<b>Department</b>	Computer Science and Industrial Engineering
<b>Modality</b>	Presencial
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.
<b>Language</b>	English
<b>Degree</b>	Degree in Automation and Industrial Electronic Engineering
<b>Office and hour of attention</b>	Teaching by CCIA professor in hiring process.
<b>E-mail addresses</b>	Teaching by CCIA professor in hiring process.

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## Learning objectives

Programming applications on SBC platforms (such as the Raspberry Pi) to develop sensor using and network accessible applications.

## Competences

### Specific

Basic knowledge of the use and programming of computers, operating systems, databases and computer programs with applications in engineering.

Applied knowledge of industrial computing and communications.

Knowledge of the basics of the applications and computer systems.

### General

To have the skills required to undertake new studies or improve the training with self-direction.

Capacity for unidisciplinary and multidisciplinary teamwork.

### Strategic of the University

Command of a foreign language.

Mastering ICT's.

## Subject contents

- Introduction to computer networks:
  - OSI / ISO layer models
  - TCP / IP model.
- Introduction to IP.
- Introduction to TCP.
- Introduction to HTTP.
- Web Application Development
- Python web servers

## Methodology

Lectures.

Development (with Programació i Comunicacions II) of a complex project.

Development of small mini projects and small parts of the whole project.

## Evaluation

Project-based learning (together with Programació i Comunicacions II). Those students not attending PiC2, will only develop a part of the project.

## Bibliography

Documentation and examples in the virtual campus.

<http://appinventor.mit.edu/explore/get-started>

<http://appinventor.mit.edu/explore/ai2/tutorials>

Think Python - Allen B. Downey (<http://www.greenteapress.com/thinkpython/>)

Learn Python the Hard Way - Zed Shaw (<http://learnpythonthehardway.org/>)