Course guides
205215 - PCP - Creative Programming with Processing

Last modified: 29/05/2020

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 739 - TSC - Department of Signal Theory and Communications.

Degree: BACHELOR'S DEGREE IN INDUSTRIAL TECHNOLOGY ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN AEROSPACE TECHNOLOGY ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN AEROSPACE VEHICLE ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN TEXTILE TECHNOLOGY AND DESIGN ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING (Syllabus 2010). (Optional subject).

Academic year: 2020 **ECTS Credits:** 3.0 **Languages:** English

LECTURER

Coordinating lecturer: IGNASI ESQUERRA LLUCIÀ

Others:

TEACHING METHODOLOGY

This is a full practical course taught in a computer laboratory. Each lecture consists in an introduction to new concepts, followed by students' work on programming exercises.

LEARNING OBJECTIVES OF THE SUBJECT

Processing is a programming language that was developed for easy use in creating art performances with real-time audiovisual interaction. This course goal is to introduce and learn to program interactive applications using Processing, from the very basics to more advanced topics.

STUDY LOAD

Type	Hours	Percentage
Hours large group	30,0	40.00
Self study	45,0	60.00

Total learning time: 75 h

CONTENTS

Module 1: BASIC COMMANDS

Description:
Introduction to Processing. Basics commands.

Related activities:
Project I

Full-or-part-time: 12 h
Theory classes: 5h
Self study : 7h 30m

Module 2: INTERACTION

Description:
Mouse and keyboard interaction.

Related activities:
Project II

Full-or-part-time: 12 h
Theory classes: 5h
Self study : 7h 30m

Module 3: IMAGE AND SOUND

Description:
Image, sound and video processing.

Related activities:
Project III

Full-or-part-time: 12 h
Theory classes: 5h
Self study : 7h 30m

Module 4: DATA VISUALIZATION

Description:
Data visualization.

Related activities:
Project IV

Full-or-part-time: 12 h
Theory classes: 5h
Self study : 7h 30m

Module 5: COMPUTER VISION

Description:
Processing of webcam images

Related activities:
Project V

Full-or-part-time: 12 h
Theory classes: 5h
Self study : 7h 30m

Module 6: ADVANCED TOPICS

Description:
Exporting images, videos and applications.

Related activities:
Project VI

Full-or-part-time: 12 h
Theory classes: 5h
Self study : 7h 30m

GRADING SYSTEM

Each module is evaluated with programming exercises. The final grade is the average of tasks. All works must be done individually.

BIBLIOGRAPHY

Complementary:
- Reas, Casey; Fry, Ben. Processing: a programming handbook for visual designers and artists. 2nd ed. Cambridge: The MIT Press, cop. 2014. ISBN 9780262028288.
- Reas, Casey; Fry, Ben. Make: getting started with processing: a hands-on introduction to making interactive graphics. 2nd ed. Sebastopol: Maker Media, 2015. ISBN 9781457187087.