

## 205215 - PCP - Creative Programming with Processing

Coordinating unit:	205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering		
Teaching unit:	739 - TSC - Department of Signal Theory and Communications		
Academic year:	2019		
Degree:	BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN TEXTILE TECHNOLOGY AND DESIGN ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING (Syllabus 2010). (Teaching unit Optional) BACHELOR'S DEGREE IN INDUSTRIAL TECHNOLOGY ENGINEERING (Syllabus 2010). (Teaching unit Optional) BACHELOR'S DEGREE IN AEROSPACE TECHNOLOGY ENGINEERING (Syllabus 2010). (Teaching unit Optional) BACHELOR'S DEGREE IN AEROSPACE VEHICLE ENGINEERING (Syllabus 2010). (Teaching unit Optional)		
ECTS credits:	3	Teaching languages:	English

### Teaching staff

Coordinator: IGNASI ESQUERRA LLUCIÀ

### Teaching methodology

This is a full practical course taught in a computer laboratory, with an introduction to the new concepts followed by students' work on the 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 objective is to introduce and learn to program interactive applications using Processing, from the very basics to building a complete project.

### Study load

Total learning time: 75h	Hours large group:	30h	40.00%
	Hours medium group:	0h	0.00%
	Hours small group:	0h	0.00%
	Guided activities:	0h	0.00%
	Self study:	45h	60.00%

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### Content

<p>Module 1: BASIC COMMANDS</p>	<p>Learning time: 12h 30m Theory classes: 5h Self study : 7h 30m</p>
<p>Description: Introduction to Processing. Basics commands.</p> <p>Related activities: Project I</p>	
<p>Module 2: INTERACTION</p>	<p>Learning time: 12h 30m Theory classes: 5h Self study : 7h 30m</p>
<p>Description: Mouse and keyboard interaction.</p> <p>Related activities: Project II</p>	
<p>Module 3: IMAGE AND SOUND</p>	<p>Learning time: 12h 30m Theory classes: 5h Self study : 7h 30m</p>
<p>Description: Image, sound and video processing.</p> <p>Related activities: Project III</p>	
<p>Module 4: DATA VISUALIZATION</p>	<p>Learning time: 12h 30m Theory classes: 5h Self study : 7h 30m</p>
<p>Description: Data visualization.</p> <p>Related activities: Project IV</p>	

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Module 5: COMPUTER VISION	Learning time: 12h 30m Theory classes: 5h Self study : 7h 30m
Description: Video and computer. Related activities: Project V	
Module 6: ADVANCED TOPICS	Learning time: 12h 30m Theory classes: 5h Self study : 7h 30m
Description: Export applications. Related activities: Project VI	

### Qualification system

Each module is evaluated with programming exercises and projects. Weights are 15% for units 1 to 5, and 25% for the final project. All works must be done individually.

### Bibliography

#### Complementary:

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.

Reas, Casey; Fry, Ben. Processing: a programming handbook for visual designers and artists. 2nd ed. Cambridge: The MIT Press, cop. 2014. ISBN 9780262028288.