



# **ACADEMIC PROGRAM**

## **WEB AND APPS DESIGN**

### **B.F.A. IN INTERACTIVE PRODUCT DESIGN**

***MODALITY: ON CAMPUS***

***ACADEMIC YEAR: 2023-2024***

<b>Name of the course:</b>	<b>Web and Apps design</b>
Degree :	Interactive Product Design
Location:	Centro Universitario de Tecnología y Arte Digital
Modulo:	Specialized Design
Area:	Technology for Interactive Products
Year:	4º
Teaching period:	2º
Type:	OB
ECTS credits:	6
Teaching modality:	On campus
Language:	English
Lecturer / Email	Tiago Manuel Simas / tiago.louro@u-tad.com
Web page:	<a href="http://www.u-tad.com/">http://www.u-tad.com/</a>

## SUBJECT DESCRIPTION

### Area description

This subject belongs to the Specialized Design module and, within it, to the area of Technology for Interactive Products. This area refers to the study and practice of the set of techniques necessary for the acquisition of the necessary knowledge for the technological development of applications and video games, focusing on the most technical part of these.

### Subject description

In this subject the student will develop an advanced knowledge of programming, taking further the objectives seen in the subjects "Introduction to programming" and "Scripting".

It is a subject that both groups and exercises knowledge already acquired, and prepares the student for programming work at a higher level than the subjects already mentioned. It will provide the student with the knowledge to be more autonomous in the programming of interactive digital products.

## COMPETENCIES AND LEARNING OUTCOMES

## Competencies

### BASIC AND GENERAL

GC2 - Knowing how to adapt to change and new situations with flexibility and versatility.

GC6 - Demonstrate motivation for quality.

GC8 - Demonstrate the ability to work in a team.

GC18 - Manage information appropriately.

CB1 - That students have demonstrated possession and understanding of knowledge in an area of study that builds on the foundation of general secondary education, and is usually at a level that, while relying on advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study.

CB2 - Students are able to apply their knowledge to their work or vocation in a professional manner and possess the competences usually demonstrated through the development and defence of arguments and problem solving within their field of study.

CB3 - Students have the ability to gather and interpret relevant data (usually within their field of study) in order to make judgements that include reflection on relevant social, scientific or ethical issues.

CB4 - Students are able to communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

CB5 - That students have developed those learning skills necessary to undertake further study with a high degree of autonomy.

### SPECIFIC

SC1 - Know the language necessary to communicate and structure a coherent discourse in the field of sociology, philosophy and psychology in relation to the design of interactive products.

SC7 - Knowing the practical fundamentals of the use and programming of computers and interactive product development tools.

SC8 - Evaluate the ethical, technical and creative implications of technology in the design of interactive products.

SC18 - Apply theoretical and practical knowledge of product design for content development.

SC20 - Knowing the determining factors of the consumer market of interactive products, taking into account the knowledge and respect for social and cultural environments.

SC21 - Understand the principles of design applied to multiple consumer devices.

## Learning outcomes

Use current game engines to create video games.

Use basic programming to improve the design of non-complex games.

Assessing the artificial intelligence techniques needed for a video game

Adapt a video game or interactive system to different cultures

Defining a game's localization strategy based on social influences

## CONTENTS

- Software development methodologies applied to videogame development.
- Elements of agility in development.
- Automatic development processes.

## SUBJECT SYLLABUS

Theme 1. Introduction to mark-up languages

Theme 2. HTML

Theme 3. CSS

Theme 4. Web layout

Theme 5. Flexbox

Theme 6. Introduction to JavaScript

## TRAINING ACTIVITIES AND TEACHING METHODOLOGIES

### TRAINING ACTIVITIES

LEARNING ACTIVITIES	Total hours	Hours of presence
<i>Theoretical classes</i>	37,50	37,50
<i>Seminars and workshops</i>	5,00	5,00
<i>Practical classes</i>	12,50	12,50
<i>Tutorials</i>	3,00	3,00
<i>Evaluation Activities</i>	5,00	5,00
<i>Group work and study</i>	10,00	0,50
<i>Autonomous and individual study and work</i>	77,00	0,00
<b>TOTAL</b>	150	64

## Teaching methodologies

Expository method/Master lecture

Case studies

Exercise and problem solving

Problem-based learning

## TEMPORAL DEVELOPMENT

Theme 1. Introduction to mark-up languages: 1 week

Theme 2. HTML: 3 weeks

Theme 3. CSS: 3 weeks

Theme 4. Web layout: 2 weeks

Theme 5. Flexbox: 2 weeks

Theme 6. Introduction to JavaScript: 4 weeks

## EVALUATION SYSTEM

ASSESSMENT SYSTEM	MINIMUM SCORE RESPECT TO THE FINAL ASSESSMENT (%)	MAXIMUM SCORE RESPECT TO THE FINAL ASSESSMENT (%)
<i>Assessment of participation in class, exercises or projects of the course</i>	10	30
<i>Assessment of assignments, projects, reports, memos</i>	35	70
<i>Objective test</i>	30	60

## GRADING CRITERIA

ASSESSMENT SYSTEM	ORDINARY EVALUATION	EXTRAORDINARY EVALUATION
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<i>Assessment of participation in class, exercises or projects of the course</i>	10	10
<i>Assessment of assignments, projects, reports, memos</i>	60	60
<i>Objective test</i>	30	30

### General comments on the evaluations/assessments

- In order to pass the course it will be necessary to obtain a minimum grade of 5.0 (out of 10) in the global evaluation between the final project (60% of the grade), participation in class and practical work carried out during the course (10% of the grade) and the objective test which will be a multiple choice exam (30% of the grade).
- Works will not be accepted out of form and date without justified cause, and if it is accepted, it will be with a considerable reduction in the grade.
- In the extraordinary call, the same requirements will be maintained and grades higher than 5.0 can be kept if the student wishes.
- Any detection of plagiarism, copying or use of malpractice (such as the use of AIs) in a paper or exam will result in the failure of that paper with a zero, a report to the faculty and academic coordinator and the application of the current regulations, which can lead to very serious penalties for the student.
- The use of Smartwatches or cell phones is not allowed during exams. Such devices will have to be put away and out of the student's sight during the exam.
- The use of cell phones is not allowed during classes.

### LIST OF REFERENCES (BOOKS, PUBLICATIONS, WEBSITES):

#### Key references

Jon Duckett (2011). HTML and CSS: Design and Build Websites. Wiley

ISBN: 978-1118008188

Ethan Marcotte (2011). Responsive Web Design. A Book Apart

ISBN: 978-1-9375571-8-8

#### Recommended references

<https://developer.mozilla.org/es/docs/Web>

<http://www.w3.org/standards/webdesign/htmlcss>

<https://www.w3schools.com/>

Rob Larsen, "Beginning HTML and CSS". Wrox (2013)

Douglas Crockford. "JavaScript: The Good Parts". O'Reilly Media, Inc. (2008)

David Flanagan. "JavaScript: The Definitive Guide" (6th Ed.) O'Reilly

## **REQUIRED MATERIALS, SOFTWARE AND TOOLS**

### **Type of classroom**

Projection equipment and whiteboard

### **Materials:**

Laptop computer with Windows

### **Software:**

Notepad++