Universidad Francisco de Vitoria UFV Madrid

Teaching guide

IDENTIFICATION DETAILS

Degree:	
Faculty/School:	Senior Polytechnic School
Course:	SCRIPTING AND PROGRAMMING LANGUAGES
Type:	Compulsory Internal
ECTS credits:	3
Year:	1
Code:	46112
Teaching period:	Second semester
Teaching type:	Classroom-based
Language:	English
Total number of student study hours:	75

Teaching staff	E-mail
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SUBJECT DESCRIPTION

En esta clase explicaré una exploración concisa y dedicada de algunas formas regulares, no convencionales y de gran utlidad de scripting en videojuegos. Esta clase es muy importante porque se forma desde el mismo comienzo al alumno a crear su propias herramientas, el material se centrará en casos prácticos y ejemplos de cómo se puede aplicar de manera creativa scripts para lograr fines más complejos, incluye temas como Inteligencia Artificial, herramientas, debuging, animación y mucho más.

In this class I will explain a concise and dedicated some regular, unconventional and highly utility for exploration scripting in video games. This class is very important because it is formed from the very beginning students to create their own tools, the material will focus on case studies and examples of how you can apply creatively scripts to achieve more complex purposes, includes issues such as atificial intelligence, tools, debuging, animation and lots more.

GOAL

The specific targets of the course are:

Provide students with the ability to create small non-complex scripts so that they can equip their games with useful tools to create them.
Generate in the student the curiosity and his research capacity in this field so that in the future he can develop with easefully.

PRIOR KNOWLEDGE

Fundamentals of programming.

COURSE SYLLABUS

1. Prog. Languages

In this first part will explain some of the programming languages most used in video games and deepen in the defendants.

- Why C#?
- Maxscript
- Phyton

2. First scripts

If we want to define a behavior or create a rule for our game we must learn how to write a script, how to instantiate it and how to execute it.

2.1. Create a Game in Unity
2.2. Creating a Voxel Tree with Maxscript
2.3. Toolsets with Python (Maya)
2.4. Creating a tank chains

EDUCATION ACTIVITIES

PARTICIPATIVE MAGISTRAL LESSON: Unlike the classical masterclass, in which the weight of teaching falls on the teacher, in the masterful lesson participatory we seek that the student moves from a passive attitude to an active, favoring their participation. For this, it is necessary for the teacher to make a good structuring of the content, to have clarity of exposition and to be able to maintain the attention and interest of the student.

AUTONOMOUS WORK. In this methodology the student takes the initiative with or without the help of others (teachers, peers, tutors, mentors). It is the student who diagnoses their learning needs, formulates their learning goals, identifies the resources they need to learn, chooses and implements appropriate learning strategies, and evaluates the results of their learning. The teacher thus becomes the guide, the facilitator and in a source of information that collaborates in that autonomous work. This methodology will be of special interest for the development of competences related to research.

COOPERATIVE WORK IN REDUCED GROUPS: The number of students programmed in our University allows us to work in groups in small groups. Slavin defines cooperative work as "instructional strategies in which pupils are divided into small groups and evaluated according to the group's productivity", which places at stake both individual responsibility and positive interdependence, the basis of professional teamwork .

CASE METHOD: Acquisition of learning through the analysis of cases or real management situations. This active learning technique, centered on student research on a real and specific problem, helps the learner to acquire the basis for an inductive study.

PROBLEM SOLVING: The teacher proposes a problem on which no previous specific training has been given, which is worked individually or by groups in the classroom or in a virtual way, and then has to be worked on individually by the student .

DISTRIBUTION OF WORK TIME

CLASSROOM-BASED ACTIVITY	INDEPENDENT STUDY/OUT-OF-CLASSROOM ACTIVITY
30 hours	45 hours

SKILLS

The students have demonstrated to possess and to understand knowledge in the area of basic of programming to a basic level to be able to understand and to improve the work of production like designers. It also includes aspects that involve the student in a professional manner.

The students know how to apply the knowledge to their work in a professional way and possess the skills necessary for the development of scripts that help the development team.

LEARNING RESULTS

Create and design specific script for the production of video games.

Ability to understand needs correctly and apply it to code clearly and effectively.

LEARNING APPRAISAL SYSTEM

The regular evaluation will be done by the continuous assessment system. And you must comply with the following:
- Students must obtain a minimum of 5 in all qualification elements in order to pass.
- Assistance must not be less than 80%.

Qualification elements:
- Work and group exercises: 40%
- Individual work and exercises: 35%
- Laboratory work: 25%

Extraordinary Evaluation:
- Delivery of the work of the regular evaluation.

BIBLIOGRAPHY AND OTHER RESOURCES

Basic

Kelly L. Murdock's Autodesk 3ds Max 2017 Complete Reference Guide

C# Game Programming: For Serious Game Creation by Daniel Schuller

Additional

Mathematics for 3D Game Programming and Computer Graphics, Third Edition by Eric Lengyel

Programming Game AI By Example (Wordware Game Developers Library) de Mat Buckland

Game Coding Complete Fourth Edition de Mike McShaffry y David "Rez" Graham

Maya Python for Games and Film: A Complete Reference for the Maya Python API Edición Kindle by Adam Mechtley