Teaching guide

IDENTIFICATION DETAILS

Degree:	Degree in Video Game Design

Field of Knowledge:	Social and Legal Sciences

Faculty/School:	Communication Sciences

Course:	PLANNING OF NPC ARTIFICIAL INTELLIGENCE

Type:	Compulsory	ECTS credits:	6

Year:	3	Code:	4667

Teaching period:	Fifth semester

Subject:	Technological Knowledge Bases

Module:	Knowledge of Playable Systems and Planning of Game Strategies

Teaching type:	Classroom-based

Language:	Spanish

Total number of student study hours:	150

SUBJECT DESCRIPTION

In this course, the various techniques used for the simulation of intelligence will be analyzed. They will be the tools that serve as a basis to be able to apply, later, in the design of different game genres to those characters that the player does not control.

GOAL

That the student knows the main techniques of simulated intelligence in video games and knows how to apply them in the design and implementation of these.

PRIOR KNOWLEDGE

Scheduling
Game Mechanic Design
Using development environments

Previous subjects:

Fundamentals of basic programming in video games
Use and management of editors and graphics engines

COURSE SYLLABUS

TOPIC 1: Introduction
TOPIC 2: Techniques

Mouvement
Routes
Decisions
Strategies
Learning

TOPIC 3: Application

Action
Driving
Real-time strategy
sports
Turn-based games

EDUCATION ACTIVITIES

Peer learning
Practices
Targeted work
Individual work

DISTRIBUTION OF WORK TIME

TEACHER-LED TRAINING ACTIVITIES	INDIVIDUAL WORK
60 Horas	90 Horas

SKILLS

Basic Skills

Students must have demonstrated knowledge and understanding in an area of study that is founded on general secondary education. Moreover, the area of study is typically at a level that includes certain aspects implying knowledge at the forefront of its field of study, albeit supported by advanced textbooks

Students must be able to apply their knowledge to their work or vocation in a professional manner and possess skills that can typically be demonstrated by coming up with and sustaining arguments and solving problems within their field of study.

Students must have the ability to gather and interpret relevant data (usually within their field of study) in order to make judgments that include reflections on pertinent social, scientific or ethical issues

Students must be able to convey information, ideas, problems and solutions to both an expert and non-expert audience

Students must have developed the learning skills needed to undertake further study with a high degree of independence

Ability to master information and communication technologies and to apply them in the videogame industry.

General Skills

Ability to master information and communication technologies and to apply them in the videogame industry.

Specific skills

Ability to understand and apply programming principles to understand the technological process involved in the production of a video game.

Ability to understand and master different video game graphic editors to be able to make functional prototypes and apply testing tasks.

Ability to define automatisms with the appearance of intelligence for non-player characters controlled by the machine.

LEARNING RESULTS

Use the most appropriate technique to solve a simulated intelligence problem.

Design simulated intelligence according to the different video game genres.

Creating simulated intelligence in current development environments

LEARNING APPRAISAL SYSTEM

The ordinary evaluation will be carried out by the continuous evaluation system with the following qualification elements:

Continuous evaluation of laboratory work: 40%
Evaluation of the suitability of the given solution to specific problems: 30%
Evaluation of teamwork in the Laboratory for carrying out projects: 20%
Attitude and participation in face-to-face activities in the classroom and/or laboratory: 10%, if the attendance is less than 80% it will be rated as 0.

For students who lose the continuous evaluation option, due to suspending a practice, the ordinary evaluation will be based on the following elements:

Evaluation of the suitability of the given solution to specific problems: 20%
Evaluation of teamwork in the Laboratory for carrying out projects: 20%
Written or oral, developmental, short answer or test-type tests: 60%

For students with an academic exemption, the ordinary evaluation consists of:

Continuous evaluation of laboratory work: 40%
Evaluation of the suitability of the given solution to specific problems: 30%
Evaluation of teamwork in the Laboratory for carrying out projects: 20%
Attitude and participation in face-to-face activities in the classroom and/or laboratory: 10%, to qualify, they must attend at least three tutoring sessions with the teachers responsible for the subject.

The extraordinary evaluation will consist of:

Evaluation of the suitability of the given solution to specific problems: 30%
Written or oral, developmental, short answer or test-type tests: 70%

In any call, students must obtain a minimum of 5 in all grade elements in order to pass.
Under no circumstances will work or grades be saved for the next course, and the student must return to the full subject and submit original tasks.
Plagiarism, as well as the use of illegitimate means in evaluation tests, will be sanctioned in accordance with those established in the Evaluation Regulations and the University's Coexistence Regulations.
For the purpose of calculating calls in a subject, only those in which the student has taken evaluation tests whose sum of weights in the final grade exceeds 50% will be counted as consumed. It will be understood that a student has taken a test even if they abandon it once it has started. The condition of Not Presented in the extraordinary call will be linked to the non-attendance or delivery of any test, practice or work that is pending.

ETHICAL AND RESPONSIBLE USE OF ARTIFICIAL INTELLIGENCE

1.- The use of any Artificial Intelligence (AI) system or service shall be determined by the lecturer, and may only be used in the manner and under the conditions indicated by them. In all cases, its use must comply with the following principles:

a) The use of AI systems or services must be accompanied by critical reflection on the part of the student regarding their impact and/or limitations in the development of the assigned task or project.

b) The selection of AI systems or services must be justified, explaining their advantages over other tools or methods of obtaining information. The chosen model and the version of AI used must be described in as much detail as possible.

c) The student must appropriately cite the use of AI systems or services, specifying the parts of the work where they were used and describing the creative process followed. The use of citation formats and usage examples may be consulted on the Library website(https://www.ufv.es/gestion-de-la-informacion_biblioteca/).

d) The results obtained through AI systems or services must always be verified. As the author, the student is responsible for their work and for the legitimacy of the sources used.

2.- In all cases, the use of AI systems or services must always respect the principles of responsible and ethical use upheld by the university, as outlined in the Guide for the Responsible Use of Artificial Intelligence in Studies at UFV. Additionally, the lecturer may request other types of individual commitments from the student when deemed necessary.

3.- Without prejudice to the above, in cases of doubt regarding the ethical and responsible use of any AI system or service, the lecturer may require an oral presentation of any assignment or partial submission. This oral evaluation shall take precedence over any other form of assessment outlined in the Teaching Guide. In this oral defense, the student must demonstrate knowledge of the subject, justify their decisions, and explain the development of their work.

BIBLIOGRAPHY AND OTHER RESOURCES

Basic

Unity Documentation 1
(Unity Documentation 1 , https://docs.unity.com/)

Unreal Documentation 1
(Unreal Documentation 1 , https://dev.epicgames.com/documentation)