

IDENTIFICATION DETAILS

Degree:	Degree in Video Game Design			
Field of Knowledge:	Social and Legal Sciences			
Faculty/School:	Communication Sciences			
Course:	DESIGN OF NETWORKED VIDEOGAMES AND MULTIPLAYER SYSTEMS			
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Туре:	Optional		ECTS credits:	6
Year:	4		Code:	4692
Teaching period:	Eighth semester			
Subject:	Technological Knowledge Bases			
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Module:	Knowledge of Playable Systems and Planning of Game Strategies			
Teaching turner	Classification based			
reaching type:	Classroom-based			
	Spanish			
Language.	opanish			
Total number of student	150			
study hours:				

SUBJECT DESCRIPTION

This course will analyze the techniques used for the development of network multiplayer games as well as their implementation with current development tools.

GOAL

That the student is able to develop their own multiplayer network game implementing the most common systems.

- Programming (C#).
- Design of game mechanics aimed at multiple players.
- Use of video game publishers (Unity).

COURSE SYLLABUS

TOPIC 1: Matchmaking TOPIC 2: Ranking TOPIC 3: Communication TOPIC 4: Synchronization TOPIC 5: P2P TOPIC 5: Server and Client TOPIC 7: Problem Management

EDUCATION ACTIVITIES

PARTICIPATORY MASTER LESSON: Unlike the classic master lesson, in which the burden of teaching falls on the teacher, in the participatory master class we seek to move the student from a passive attitude to an active one, encouraging their participation. For this reason, it is necessary for the teacher to structure the content well, to have clarity of presentation and to be able to maintain the student's attention and interest.

AUTONOMOUS WORK. In this methodology, the student takes the initiative with or without the help of others (teachers, classmates, 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 their learning outcomes. The teacher thus becomes the guide, the facilitator and a source of information that collaborates in this autonomous work. This methodology will be of special interest for the development of research-related competencies.

COOPERATIVE WORK IN SMALL GROUPS: The number of students scheduled at our University allows us to work in small groups as a group. Slavin defines cooperative work as 'instructional strategies in which students are divided into small groups and are evaluated according to group productivity', which brings into play both individual responsibility and positive interdependence, the basis of professional teamwork.

TUTORIAL ACTION SYSTEM: which includes interviews, discussion groups, self-reports and tutorial follow-up reports.

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 develop the perseverance necessary to solve the difficulties inherent in the production of a video game.

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 understand and analyze the principles of network games and create multiplayer narratives capable of working on a large scale.

LEARNING RESULTS

Design and implement a matchmaking system for the creation and joining of network games.

Learn about the different server and client structures for synchronizing multiplayer games.

Learn about the different forms of communication and their management in multiplayer games.

Design solutions for the different problems that occur in online games.

LEARNING APPRAISAL SYSTEM

The ordinary evaluation will be carried out by the continuous evaluation system and must comply with the following:

Students must obtain a minimum of 5 on all grade elements in order to pass. Attendance should not be less than 80%.

Qualification elements:

Work and exercises: 40% Written or oral, developmental, short answer or test-type tests: 60%

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. Extraordinary evaluation:

Delivery and defense of ordinary evaluation papers rated below 5. The extraordinary evaluation is evaluated up to a maximum of 7.

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(<u>https://www.ufv.es/gestion-de-la-informacion_biblioteca/</u>).

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 <u>Guide for the Responsible Use of Artificial Intelligence in Studies at UFV</u>. 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.

Stagner, Alan R. Unity Multiplayer Games: Build engaging, fully functional, multiplayer games with Unity engine/Birmingham: Packt Publishing, 2013.