



Emergent Educational Technologies

Master's degree in Technological Innovation in Education

Universidad Católica de Valencia



TEACHING GUIDE FOR THE SUBJECT MATTER AND/OR COURSE

		ECTS
FIELD: Virtual learning environments		6
Course: Emergent Educational Technologies		6
Module: Education 3.0		12
Type of Learning¹: COMPULSORY	YEAR: 1st Semester: 2nd	
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ORGANIZATION OF THE MODULE

EDUCATION 3.0	12 ECTS
<p>This module is completed in the second semester within the curriculum and lasts 6 weeks. The subject matter "Virtual Learning Environments" is part of it and teaching strategies to develop quality virtual training through VLEs are taught: didactic use of forums, assessment by means of rubrics, advanced task management, enrollment of users, allocation of roles and permissions and inclusion of materials in standard format.</p> <p>In the subject "Emergent Educational Technologies" the constant advancement of educational technologies is analyzed. In this subject we attempt to get to know the most</p>	

¹ Basic training (common subject), Compulsory, Elective, Practicum, Master's Thesis.



innovative technologies that are being used in the classrooms at the moment such as Augmented Reality, 3D modelling, 3D printers, robotics, programming. The student will learn to design training activities by means of the application of these emergent educational technologies.

Subject Matters and Courses

Subject matter	ECTS	COURSE	ECTS	Year/ semester
VIRTUAL LEARNING ENVIRONMENTS	6	Virtual learning environments	6	1/2
EMERGENT EDUCATIONAL TECHNOLOGIES	6	Emergent Educational technologies	6	1/2

TEACHING GUIDE FOR THE SUBJECT: VIRTUAL LEARNING ENVIRONMENTS

Prerequisites: None

GENERAL GOALS

- A. To get to know the main techno-educational innovations at the moment.
- B. To design a training activity integrating new emergent technologies.

BASIC SKILLS²

Measuring scale for the skill

Basic	1	2	3	4
BS6 - Know and understand knowledge that provides a basis or opportunity for originality in developing and/or applying ideas often within a research context.			X	
BS8 - Integrate knowledge and face complexity as they make judgments from information that, being incomplete or limited, includes reflection on social and ethical responsibilities connected with the application of their knowledge and judgments.			X	
BS9 - Report their findings and the knowledge and rationale underpinning them before specialist and non-specialist audiences in a clear, unambiguous manner.			X	

²List all skills consecutively. Each one of them must be weighted from 1 to 4 using as a criterion the degree of contribution of the course/subject matter to the acquisition and development of the skill.



Teaching guide



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General	1	2	3	4
GS.2. Students are able to adapt to the new technological situations updating contents and skills.				X
GS.3. Students are able to innovate their teaching methodology incorporating the digital skill in the classroom.				X

SPECIFIC SKILLS ³				
Specific	1	2	3	4
SS1—Students know the epistemological aspects and/or the production of technological knowledge and consider its application to the educational domain.				X
SS9 - Students know the general panorama of the Techno-Educational sector of the moment and can carry out a diagnosis thereof.				X
SS10 - Students are able to incorporate ICT innovations adapted to cross-platform devices to educational practice.				X

LEARNING OUTCOMES ⁴	SKILLS
O-1 Students recognize the main technological innovations for the education of the moment	BS6, BS8, BS9, GS2, SS1, SS9, SS10
O-2 Students are able to design an innovative training activity from the new emergent technologies	BS6, BS88, BS9, GS3, SS1, SS9, SS10

³ The particular fields are weighed from 1 to 4 following the same criterion as with the cross-sectional ones.

⁴ List all learning outcomes consecutively following the proposed nomenclature.

Important note: The skills are expressed in a generic sense which is why it is necessary to include the learning outcomes in the teaching guide. These results constitute a concretion of one or several skills, making explicit the degree of mastery or performance that the student must acquire and contain in its formulation the criterion with which he/she is going to be assessed. The learning outcomes demonstrate what the student will be able to demonstrate when finalizing the subject or course and reflect, furthermore, the degree of acquisition of the skill or set of skills.



CLASSROOM FORMATIVE ACTIVITIES			
ACTIVITY	Teaching-Learning Methodology	Relationship with Learning Outcomes of the subject	ECTS ⁵
PARTICIPATING MASTER CLASS	Presentation of contents on the part of the professor, analysis of skills, explanation and demonstration of capacities, abilities and knowledge in the classroom that require student feedback and participation.	ALL OUTCOMES	1.2
PRACTICAL CLASSES	Sessions of group work supervised by the professor. Study of cases, problems, fieldwork, computer classroom, visits, data search, libraries, software analyses, etc. Meaningful construction of knowledge through student interaction and activity.	ALL OUTCOMES	1.2
Total			(2.4*)

⁵The course and/or subject matter is organized into **CLASSROOM FORMATIVE ACTIVITIES** and **STUDENT INDEPENDENT FORMATIVE ACTIVITIES**, with an estimated percentage in ECTS. A proper distribution is as follows: **35-40%** for classroom activities and **65-60%** for student independent activities. (For a course carrying a load of 6 ECTS: 2.4 and 3.6 respectively).

The teaching-learning methodology is described in this guide in a generic manner and is specified in the didactic units into which the course and/or subject matter is organized.



STUDENT INDEPENDENT FORMATIVE ACTIVITIES ⁶			
ACTIVITY	Teaching-learning methodology	Relationship with Learning Outcomes of the subject	ECTS
CONTINUOUS ASSESSMENT ACTIVITIES	Group preparation of readings, essays, resolution of problems, seminars, papers, reports, etc. in order to be turned in or submitted in the forums.	ALL OUTCOMES	1
DISCUSSION FORUMS	On-line discussions or opinions supervised by the professor that allow the students to express their ideas, opinions and comments with respect to the text analyzed or the contents discussed in the lectures.	ALL OUTCOMES	0.6
ASYNCHRONOUS VIRTUAL SESSION	Presentation of contents on the part of the teacher, analysis of skills, explanation and demonstration of abilities, capabilities and knowledge in the virtual classroom, which require the feedback and participation of the student body at different times.	ALL OUTCOMES	0.8
INDIVIDUAL WORK	Student study: preparation of readings, essays, resolution of problems, seminars, papers, reports, etc. to be presented or submitted in the theoretical classes, practical classes and small group mentoring sessions.	ALL OUTCOMES	1.2
Total			(3.6*)

⁶ All independent formative activities are carried out on the university platform (campusdocencia.ucv.es)



ASSESSMENT SYSTEM OF SKILLS ACQUISITION AND MARKING SYSTEM		
Assessment instrument ⁷	LEARNING OUTCOMES ASSESSED	Allocated percentage
Attendance and participation (physical/virtual)	ALL	10%
Rubrics for the systematic observation of the execution of tasks	O1, O3	70%
Final Project	O2, O4	30%

CRITERIA FOR THE AWARD OF PASS WITH HONORS:

In order to receive the mark of Pass with Honors the student must have the highest score in each one of the partial marks and the Final Project according to the faculty to which the degree is ascribed and in agreement with the general norm which indicates that only a pass with honors can be awarded for each group of 20 students, not for a fraction of 20. Excluded are groups of students with fewer than 20 students altogether in which case a pass with honors can be awarded.

DESCRIPTION OF CONTENTS	SKILLS
Organization in blocks of content or thematic groups. Development of the contents in Teaching Guides.	(Indicate, numerically, the related skills)
1. Augmented Reality and Virtual Reality	GS2, GS3, SS1, SS10

⁷ Assessment techniques and tools: examination-oral presentation, written tests (multiple choice or true-false tests, essay questions, concept maps...), directed papers, projects, case studies, observation notebooks, portfolios, etc.



2. Creation of 3D models:	GS2, GS3, SS1, SS10
3. Programming: Webmaker 4. Robotics	CG2, CG3, CE1, CE10
5. 3D printers	CG2, CG3, CE1, CE10

TEMPORAL ORGANIZATION OF LEARNING (Students who enroll for the first time):		
	DIDACTIC BLOCK OF CONTENT/UNIT	NUMBER OF SESSIONS
1	Augmented Reality in Education: contextualization Virtual Reality	2
2	Programming and Robotics	2
4	The maker movement	1
5	3D printers	1

BIBLIOGRAPHY

Adell, J. & Castañeda, L. (2012). Tecnologías emergentes, ¿pedagogías emergentes?. In J. Hernández, M. Pennesi, D. Sobrino & A. Vázquez (Coords). *Tendencias emergentes en educación con TIC*. (pp.18-63). Barcelona: Editorial espiral.



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Addendum to the Course Guide of the Subject

MÁSTER UNIVERSITARIO EN INNOVACIÓN TECNOLÓGICA EN EDUCACIÓN

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject:

Situation 1: Teaching without limited capacity (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

Situation 2: Teaching with limited capacity (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching.



Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

☒

Microsoft Teams

☐

Blackboard Collaborate Ultra

☐

Kaltura

Situation 3: Confinement due to a new State of Alarm.

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen onsite activities described in this section of the Course Guide, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

☒

Microsoft Teams

☐

Blackboard Collaborate Ultra

☐

Kaltura

Explanation about the practical sessions:





2. System for Assessing the Acquisition of the competences and Assessment System

ONSITE WORK

Regarding the Assessment Tools:

- ☒ The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.
- ☐ The following changes will be made to adapt the subject's assessment to the online teaching.

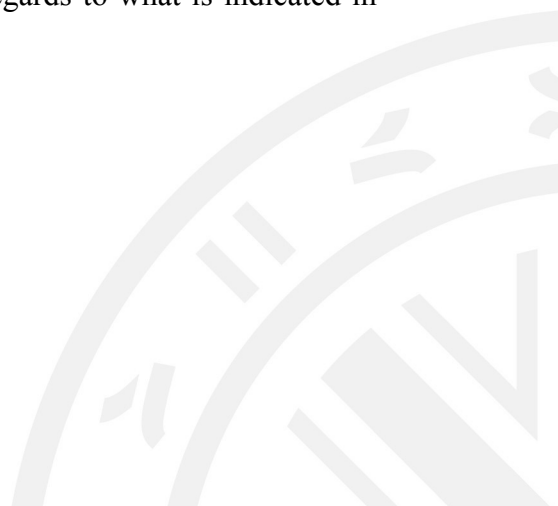
Course guide		Adaptation	
Assessment tool	Allocated Percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

Comments to the Assessment System:

ONLINE WORK

Regarding the Assessment Tools:





- ☒ The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.
- ☐ The following changes will be made to adapt the subject's assessment to the online teaching.

Course guide		Adaptation	
Assessment tool	Allocated Percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

