

SYLLABUS

1. Information about the study programme

1.1 Institution	The Technical University of Cluj-Napoca
1.2 Faculty	Faculty of Automation and Computer Science
1.3 Department	Computer Science
1.4 Field of study	Computer Science and Information Technology
1.5 Cycle of study	Bachelor of Science
1.6 Program of study/Specialization	Computer science / Engineer
1.7 Form of education	Full time
1.8 Subject code	204

2. Information about the subject

2.1 Subject name	Computer assisted instruction		
2.2 Course responsible/lecturer	Assoc. prof. Ionut-Dorin Stanciu - ionut.stanciu@dppd.utcluj.ro		
2.3 Teachers in charge of seminars	conf. dr. psih. Ionut-Dorin Stanciu - ionut.stanciu@dppd.utcluj.ro		
2.4 Year of study	III	2.5 Semester	5
2.6 Assessment			C
2.7 Subject category	Formative category		DC
	Optionality		DFac

3. Estimated total time

3.1 Number of hours per week	2	of which	Course	1	Seminar	1	Laboratory	-	Project	-
3.2 Total hours in the curriculum	28	of which	Course	-	Seminar	-	Laboratory	-	Project	-
3.7 Individual study:										
(a) Textbooks, lecture material and notes, bibliography										7
(b) Supplementary study in the library, online and in the field										7
(c) Preparation for seminars/laboratory works, homework, reports, portfolios, essays										1
(d) Tutoring										5
(e) Exams and tests										2
(f) Other activities										-
3.8 Total hours of individual study (sum (3.7(a)...3.7(f)))					22					
3.9 Total hours per semester (3.4+3.8)					50					
3.10 Number of credit points					2					

4. Pre-requisites (where appropriate)

4.1 Curriculum	-
4.2 Competence	Baccalaureate level of instruction and basic computer literacy. Specific teacher training program knowledge corresponding to previous instruction years.

5. Requirements (where appropriate)

5.1 For the course	Auditorium or large lecture room. Audio-video installation for on-screen presentations (with room speakers). WiFi or cable Internet connectivity.
5.2 For the applications Seminar / Laboratory / Project	Auditorium or large lecture room. Audio-video installation for on-screen presentations (with room speakers). WiFi or cable Internet connectivity.

6. Specific competences

6.1 Professional competences	<p>Theoretical knowledge (declarative knowledge) about: - Digital literacy and digital skills for learning and instruction - Major paradigms, theories, and principles, of specific relevance to CSL - Technology acceptance and use of information processing technologies - Fundamentals of computational thinking and theoretical underpinnings of the technological design applied to technology-augmented instructional means</p> <p>Practical skills (procedural knowledge): - Ability to identify, select, and use software tools which are adequate for instructional settings - Ability to identify, select, and use psychological and pedagogical principles and strategies which are relevant for instructional design in CSL - Ability to identify, select, and use means and opportunities for online instruction and learning, applicable at individual- or group-level, and in domain-specific and domain-general learning communities - Ability to operate and use, or operate in, for instructional purposes: - Instructional/educational software - Learning management systems - Online specific and nonspecific learning communities</p>
6.2 Cross competences	<p>- Ability to operate in technology-enhanced or technology-mediated collaborative learning communities and groups - Ability to cooperate and collaborate with experts from other disciplines in designing instruction and optimizing instructional designs that require and/or make use of technology.</p>

7. Discipline objectives (as results from the *key competences gained*)

7.1 General objective	To provide the course graduate with a set of competencies, skills and level of knowledge about him/herself which allows the formation of a competitive advantage and to provide to course graduate with a better understanding of his/her current academic status and curriculum.
7.2 Specific objectives	To facilitate domain-specific learning and knowledge acquisition by providing a larger perspective on CSL. To be able to identify and use psychological insights and instructional strategies in the utilisation and instructional design of CSL

8. Contents

8.1. Lecture (syllabus)	Number of hours	Teaching methods	Notes
Frameworks and strategies: The European Framework for Digital Literacy; European Computer Driving License; European Framework for the Digital Competence of Educators.	2	Interactive / participatory lectures. Problem-solving; debating; case studies; role play Inquiry learning;	-
Pedagogical underpinnings and introduction to CSL: scaffolding, constructivism, connectivism	2		
Pedagogical underpinnings and introduction to CSL: digital competencies, the TPACK model	2		
Fundamentals of designing technology-augmented instructional technologies. - technology acceptance. Models of TA.: - The utilitarian approach; - The hedonic approach	2		
Fundamentals of designing technology-augmented instructional technologies. - UX and usability (learnability and ease of use)	2		

Opportunities, means, and methods of online learning: Learning Management Systems. Examples and descriptions. Characteristics and functionalities of LMSs. The MOOCs phenomenon.	2		
Overview and exam preparation.	-		
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8.2. Seminar /Laboratory/Project	Number of hours	Teaching methods	Notes
Introduction to CSL and theoretical underpinnings - Digital competencies and digital literacy. - CSL-specific methods of instruction, learning, and assessment	2	Interactive / participatory lectures. Problem-solving; debating; case studies; role play Inquiry learning;	-
Frameworks and strategies. European Framework for Digital Literacy. - European Computer Driving License. Simulations - European Framework for the Digital Competence of Educators. Simulations	2		
Fundamentals of designing technology-augmented instructional technologies. - technology acceptance. Models of TA. - The utilitarian approach; - The hedonic approach - UX and usability (learnability and ease of use) - Presentation of eLearning tools (MS Teams, Moodle, KB, Zoom, Cisco Webex, Google Classroom, etc.)	2		
Fundamentals of e-Learning. - Definitions and approaches to eLearning. Types and characteristics (hybrid and blended; synchronous vs asynchronous)	1		

Major paradigms in educational technology - “Adaptive Control of Thought – Rational” (ACT-R) Architecture			
Means and opportunities for online instruction and learning - Learning management systems. Examples and description. - Characteristics and features/functionality. MOOCs. Overview and analysis.	3		
Analysis approaches in eLearning. Introduction to Social Network Analysis: - SNA. Main components and parameters - SNA. Applications and examples	2		
Overview and assessment - Overview; Portfolio presentation and review	2		
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Bibliography - Same as for the course			

9. Bridging the course contents with the expectations of the community, professional associations, and potential employers

The skills sought to be acquired in this course pertain to: - Being capable of understanding, designing and delivering evidence-based and scientifically sound technology-mediated and technology-enhanced instruction - Being capable of collaborating with professionals, experts, and specialists from other disciplines in instructional tasks and activities that require or make use of various technologies The course was designed to meet the requirements and contents of similar courses delivered in European Union universities, and the European Framework for Digital Literacy and the European Framework for the Digital Competence of Educators.

10. Evaluation

Activity type	Assessment criteria	Assessment methods	Weight in the final grade
Course	Assessment criteria consider critical thinking, logic, soundness of reasoning and argumentation, problem-solving, adequacy, accuracy/precision, completeness, fluency, and relevance.	Written tests (quizzes)	50%
Seminar / Laboratory / Project	Assessment criteria consider critical thinking, logic, soundness of reasoning and argumentation, problem-solving, adequacy, accuracy/precision,	Individual and/or team/collaborative project portfolio consisting of structured and/or unstructured assignments	50%

	completeness, fluency, and relevance.		
Minimum standard of performance			
The total weighed score exceeds the equivalent of 5/10 of the final grade. Each assessment exceeds 50% of the allotted grading. Assessment criteria include accuracy/precision, completeness, fluency, and relevance.			

Date of filling in: 26.02.2025	Responsible	Title First Name Last Name	Signature
	Course	Assoc. prof. Ionut-Dorin Stanciu	-
	Applications	Assoc. prof. Ionut-Dorin Stanciu	

Date of approval in the department	Head of department, Prof.dr.eng. Rodica Potolea
Date of approval in the Faculty Council	Dean, Prof.dr.eng. Vlad Mureşan