



Curriculum

Version 1.0
March 2023

Elaboration: University of Galway and EGE

1. The Curriculum

Course Title	Instructional Technology for STEM Teacher in higher education (HE)
Aim of the Program	This program is focused on assisting HE teachers of science, technology, engineering, and mathematics (STEM) to better understand how to integrate subject-specific teaching and learning using effective and innovative digital tools as instructional technologies. This program also allows STEM teachers in HE to improve their readiness for digital education, help them apply the principles of instructional technology horizontally throughout their teaching, and choose the the appropriate tools to support them to achieve their learning goals.
Target Group	STEM Teachers
Prerequisites	General technology knowledge Skills to analyse different materials Knowledge on conducting assessments
Learning Objectives	To provide teachers with the understanding of what is instructional technology To provide teachers with will knowledge on know how to use technological tools in the learning process To provide teachers with the knowledge on how to design, develop, manage and evaluate the teaching process of learning mediated by technological tools To allow participants to engage in effective learning experiences using available technological tools for pedagogical purposes and motivation. To introduce to the participants new, innovative technological tools to motivate their students in their learning process To provide teachers with the ability to decide how to use instructional technology for the students who have learning barriers
Developed Skills	Digital Competences Design Skills related to instruction Creativity skills Motivational skills Skills related to integrate instructional technology into their courses
Learning Outcomes	Develop skills that allows the integration instructional technology into STEM courses Empowers the ability of STEM teachers to create learning and assessment materials via technological tools
Duration	30 hours

2. The Content

Module	Units
Instructional Technology	Unit 1: Instructional Technology
	Unit 2: The attributes and characteristics of Instructional Technology
	Unit 3: The values and benefits to Instructional Technology
	Unit 4: The challenges of Teacher Level Instructional Technology
	Unit 5: The challenges of School Level Instructional Technology
Instructional Design	Unit 6: Instructional Design
	Unit 7: The importance of Instructional Design
	Unit 8: The Design Principles
	Unit 9: Flexible Instructional Design Models
	Unit 10: Linear Instructional Design Models
Instructional Technology for Learners with Learning Barriers	Unit 11: Steps to adapt your teaching methods and course content for instructional technology and/or Instructional Design
	Unit 12: What to bear in mind when using technology and digital tools in a setting with students with learning barriers.
	Unit 13: Different learning barriers & implications on the approach/tools of your course.
	Unit 14: How to select the right technology/tool for the different type of students, course content and/or type of teaching (fully online/blended/f2f)
	Unit 15: Tips and tricks on how to prepare
Evaluation Methodology	
Evaluation	There are a total of 15 Units in 3 modules. Each unit has short quizzes for self-evaluation. Taking quizzes is a voluntary action for completing the units. If participants would like to take the quiz and achieve a success

	rate of 70% or higher on each quiz, they will get a certificate for successfully completing all units through the learning management system.
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