



SYLLABUS OF COURSE “CONTEMPORARY PRACTICES IN TEACHING MATHEMATICS”

Basic information of the course	
Academic unit:	Faculty of Education
Course name:	Contemporary Practices in Teaching Mathematics
Study program:	Education Sciences
Level:	Master
Course status:	Mandatory
Study year:	Second year, third semester
Number of hours per week:	2+0
Credit value - ECTS:	4 ECTS
Time / location:	To be announced!
Lecturers:	
Contact details:	
Course description:	The course <i>Contemporary Practices in Teaching Mathematics</i> aims to provide in-depth knowledge and skills in the utilization of contemporary practices in the teaching of mathematics. Through the analysis of learning theories, contemporary technologies, and exploration of successful teaching practices, students will develop a comprehensive perspective on innovative teaching.
Course objectives:	<i>Contemporary Practices in Teaching Mathematics</i> is to strengthen students' theoretical knowledge and practical skills in the teaching of mathematics. Through the analysis of learning paradigms and contemporary strategies, they develop a profound understanding. Additionally, contemporary practices in teaching focus on expanding skills in utilizing modern technologies for creating instructional materials. Through observation of teachers' practices and their analysis, students identify the most effective strategies and challenges in teaching. The remaining part of the course includes the development of skills in designing, developing, and assessing innovative instructional materials in mathematics.
Learning outcomes:	• Apply the fundamental concepts of data analysis in education sciences, including statistical and software tools for data analysis. • Develop analytical skills in using data analysis tools to address challenges and questions in the field of education. • Develop data models to explain and predict phenomena in the context of education sciences and use appropriate tools for the analysis of these models.

	• Apply methodologies for the analysis of quantitative and qualitative data in education sciences, using an integrated approach. • Evaluate the quality of educational services and be critical of various assessments of educational quality. • Explain the role of data analysis in the development and evaluation of educational policies, using case studies and different scenarios.		
Contribution on student load (must correspond with learning outcomes)			
Activity	Hours	Day/week	Total /hours
Lectures	2	15	30
Exercise theoretical/laboratory			
Practice work	2	5	10
Contact with lecturer/consultations	2	5	10
Field exercises			
Midterms, seminars	1.5	2	3
Laboratory exercises	1	3	3
Individual time spent studying (at the library or home)	2	5	10
Final preparation for the exam	2	15	30
Time spent in evaluation (tests, quiz, final exam)	2	1	2
Projects, presentations, etc.	1	2	2
Total			150 hours (6 ECTS)
Teaching methods:	The course is a combination of lectures, group discussions, individual and group projects, the use of specialized software for data analysis, and applicable case studies.		
Assessment methods:	• Attendance in lectures and exercises: 5% + 5%. • Semestral project: 10%. • Midterm 1: 30%. • Midterm 2: 40%. • Or final exam: 100%.		
Literature			
Basic Literature:	Stein, M. K., Engle, R. A., Smith, M. S., & Hughes, E. K. (2008). Orchestrating Productive Mathematical Discussions: Five Practices for Helping Teachers Move Beyond Show and Tell. Mathematical Thinking and Learning, 10(4), 313-340.		
Additional Literature:	National Council of Teachers of Mathematics (NCTM). (2014). Principles to Actions: Ensuring Mathematical Success for All. Reston, VA: NCTM.		

Study plan:	
Week	Lectures
<i>First week:</i>	- Informing students about the tasks, goals, objectives, and literature of the course. - Providing fundamental guidance on the Theory of Learning and Teaching Mathematics.
<i>Second week:</i>	- Contemporary paradigms in teaching mathematics. - Analysis of teaching strategies in the contemporary context of mathematics.
<i>Third week:</i>	- Learning Technologies in Mathematics. - The Role of Technology in the Development of Mathematics Education. .
<i>Fourth week:</i>	- Utilization of contemporary applications and software in teaching. - Development of instructional materials using technology.
<i>Fifth week:</i>	Contemporary Practices in the Mathematics Classroom
<i>Sixth week:</i>	Analysis of Teachers' Practices and Identification of Challenges.
<i>Seventh week:</i>	First midterm.
<i>Eighth week:</i>	Designing Contemporary Instructional Materials
<i>Ninth week:</i>	Development of Innovative Instructional Materials in Mathematics
<i>Tenth week:</i>	- Assessment Methods in the Contemporary Context - Utilizing Feedback for the Improvement of Teaching
<i>Eleventh week:</i>	Analysis of Case Studies in Teaching
<i>Twelfth week:</i>	Group Discussions on Trends and Challenges in the Field
<i>Thirteenth week:</i>	- Preliminary Preparation for Projects - Presentation and Discussion of Projects Developed by Students
<i>Fourteenth week:</i>	Review of Concepts and Reflection on Teaching
<i>Fifteenth week:</i>	Second (final) midterm.
Academic policies and rules of conduct:	
- The student must be conscious and respect the institution and the Code of Ethics. - The student must adhere to the schedule of lectures and exercises and be attentive. - The student should possess and present the ID card during mid-term and final exams. - While working on course projects, the student must follow the instructions provided by the instructor. - The use of mobile phones is prohibited during exam hours.	