

Course title: Selected Topics of Methodic of Teaching Computer Science 2			
Lecturers: Mirjana K. Ivanović, Zoran D. Budimac			
Status: elective			
ECTS: 15			
Requirements:			
Learning objectives Introduction to research methodology in teaching computer science.			
Learning outcomes Preparation for research activities in the field of teaching computer science. Adoption and mastery of methods and techniques of research in teaching, processing, and interpretation of reached results.			
Syllabus <i>Theoretical instruction</i> Basic characteristics of research methods and their role in teaching computer science. Approaches to project: project management, quality management. Communication skills: presentation skills, research literature, patents, technical reports writing. Research methods: problem analysis and solution techniques; problem structuring methods, qualitative methods for system/process analysis and assessment of performances, quantitative methods for data collection and analysis; design of experiments and collection of data, performance analysis, variation analysis, statistical quality control, statistical process control, plagiarism and referencing, health and security aspects of research. <i>Student research</i> Creation of research preliminary design. Creation of data collecting research instruments. Sample selection. Data processing.			
Suggested literature: Literature is based on articles from international and national journals, selected book chapters, specifically prepared texts for this purposes, and materials from international and national conferences. Suggested books are: 1. Rethinking Pedagogy for a Digital Age: Designing for 21st Century Learning, H.Beetham, R.Sharpe, Routledge, Taylor and Francis Group, ISBN 987-0-415-53997-5, 2013. 2. Digital Humanities Pedagogy: Practices, Principles and Politics, B.Hirsch, ISBN 978-1-909254-25-1 2012 3. Pedagogy Leads Technology: Online Learning and Teaching in Higher Education: New Technologies, New Pedagogies, A.Rourke, K.Coleman, Common Ground Publishing, ISBN-10: 1863359141, 2011.			
Weekly teaching load	Lectures: 5	Student research: 5	
Teaching methodology Plenary lectures, creation and presentation of seminar paper, creation and realization of a project after the topic confirmation.			
Grading (maximal number of points 100)			
Pre-exam requirements	points	Final exam	points
Practical teaching	10	Oral exam	60
Seminar papers	20		
Colloquia	10		