



Course ID: HODNM24	Course name: RESEARCH IN SCIENCE EDUCATION		
Cycle: THIRD	Year: FIRST	Semester: II	ECTS credits: 10
Course status: ELECTIVE		Total course hours: 60 Lectures: 30 Laboratory: 30	
Teaching participants:	Teachers and associates with expertise in the field to which the subject belongs		
Prerequisite for enrollment:	-		
Course aims:	<ul style="list-style-type: none"> • Development of capacities for searching, analysis, and synthesis of scientific literature in the field of science education. • Developing skills for organizing and planning research in science education. • Developing the ability to design and manage a research project • Developing the ability for oral and written communication about research results within the scientific community • Developing the ability to work in an interdisciplinary team 		
Thematic course units:	<ul style="list-style-type: none"> • Search for scientific literature in science education research (e.g. Web of Science) • Review of research topics in science education; case studies. • Descriptive research, related and experimental research - traditional research design in science education. • Action research - a modern research approach to understanding the learning process. • Research tools in science education • Observation as a research tool • Conducting pilot research • Data analysis, hypothesis testing • Mapping the results of qualitative research • Designing a research project in the field of science education • Presenting research results to the scientific community - writing articles/reports 		
Learning outcomes:	Knowledge:		

	<p>Skills:</p> <ul style="list-style-type: none"> • Design a research project in the field of science education <p>Competences:</p> <ul style="list-style-type: none"> • Analyze the scientific literature in the field of research in science education • Present and argue the results of research within the scientific community (scientific article or presentation at a conference) 																																																
Teaching methodology:	<p>Oral presentation Discussion Research</p>																																																
Assessment methods and grading system¹:	<table border="1"> <thead> <tr> <th colspan="3">Grading criteria</th> </tr> <tr> <th>Criteria</th> <th>Maximal score</th> <th>Required score</th> </tr> </thead> <tbody> <tr> <td>1. Class attendance</td> <td>-</td> <td>-</td> </tr> <tr> <td>2. Class activities</td> <td>-</td> <td>-</td> </tr> <tr> <td>3. Midterm</td> <td>20</td> <td>11</td> </tr> <tr> <td>4. Seminar</td> <td>40</td> <td>22</td> </tr> <tr> <td>5. Final exam</td> <td>40</td> <td>22</td> </tr> <tr> <td>Total</td> <td>100</td> <td>55</td> </tr> <tr> <th colspan="3">Scores and grading</th> </tr> <tr> <th>Score</th> <th>Grade (B&H)</th> <th>Grade (ECTS)</th> </tr> <tr> <td>< 55</td> <td>5</td> <td>F, FX</td> </tr> <tr> <td>55-64</td> <td>6</td> <td>E</td> </tr> <tr> <td>65-74</td> <td>7</td> <td>D</td> </tr> <tr> <td>75-84</td> <td>8</td> <td>C</td> </tr> <tr> <td>85-94</td> <td>9</td> <td>B</td> </tr> <tr> <td>95-100</td> <td>10</td> <td>A</td> </tr> </tbody> </table>	Grading criteria			Criteria	Maximal score	Required score	1. Class attendance	-	-	2. Class activities	-	-	3. Midterm	20	11	4. Seminar	40	22	5. Final exam	40	22	Total	100	55	Scores and grading			Score	Grade (B&H)	Grade (ECTS)	< 55	5	F, FX	55-64	6	E	65-74	7	D	75-84	8	C	85-94	9	B	95-100	10	A
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Literature²:	<p>Mandatory literature:</p> <ol style="list-style-type: none"> 1. Cross K.P., Steadman, M.H. (1996): <i>Classroom Research: Implementing the Scholarship of Teaching</i>. San Francisco: Jossey-Bass Publishers. 2. Kalmbach Phillips D., Carr K. (2006): <i>Becoming a Teacher Through Action Research. Process, Context, and Self-Study</i>. New York, London: Routledge 																																																

¹ The grading structure for each subject is determined by the Council of the organizational unit before the beginning of the academic year in which the subject is taught as per Article 64, paragraph 6 of the Law on Higher Education of Sarajevo Canton

² The Senate of the higher education institution, as an institution, or the Council of the organizational unit of the higher education institution, as a public institution, determines by a special decision, which is published on its website before the beginning of the academic year obligatory, mandatory and recommended textbooks and manuals, as well as other recommended literature based on which exams are prepared and taken as per Article 56, paragraph 3 of the Law on Higher Education of the Sarajevo Canton

Taylor&Francis Group.

3. Bandiera M., et. al. eds. (1999). *Research in Science Education in Europe*. Dordrecht, Netherlands: Kluwer Academic Publishers.
4. Behrendt H. et. al. eds. (2001). *Research in Science Education - Past, Present, and Future*. Dordrecht, Netherlands: Kluwer Academic Publishers.
5. Gabel D. L. ed. (1994). *Handbook of Research on Science Teaching and Learning*. New York: Macmillan.
6. Vukadinović N., Dolničar D. (2004): *Writing Professional English - A Practical Handbook With Self-study Materials for Scientific and Technical Writers*. CD ROM. Ljubljana: Faculty of Natural Sciences and Engineering, Department of Chem. Educ. and Informatics.