

Center for Interdisciplinary and Multidisciplinary Studies / / Methodology of science and research work

Course:	Methodology of science and research work			
Course ID	Course status	Semester	ECTS credits	Lessons (Lessons+Exercises+Laboratory)
13740	Mandatory	1	10	4+2+1
Programs				
Prerequisites	None			
Aims	The course aims to enable students to acquire knowledge and train them in the methodology of scientific work and research methods, ways to collect facts, presenting the scientific results and writing the scientific work.			
Learning outcomes	After successfully completing the exam and pre-exam obligations, the student acquires knowledge and skills in the organization of performing the research process and of its structure, as well as in the preparation and presentation of scientific results, including writing scientific papers.			
Lecturer / Teaching assistant	Prof. dr Željko Jaćimović Prof. dr Nedeljko Latinović			
Methodology	• lectures • exercises • seminar papers • consultations • field work			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Philosophical, psychological, epistemological and ethical bases of scientific methodology			
I week exercises	Philosophical, psychological, epistemological and ethical bases of scientific methodology			
II week lectures	The concept and function of methodology. Methodology and scientific theory. Sources of methodological knowledge.			
II week exercises	The concept and function of methodology. Methodology and scientific theory. Sources of methodological knowledge.			
III week lectures	Components of the methodology.			
III week exercises	Components of the methodology.			
IV week lectures	Characteristics of scientific-research activity. Principles of scientific cognition. Logic and logical thinking. Logical errors: general and particular. The process of learning and memorizing.			
IV week exercises	Characteristics of scientific-research activity. Principles of scientific cognition. Logic and logical thinking. Logical errors: general and particular. The process of learning and memorizing.			
V week lectures	Means and methods of scientific research. Means of scientific research.			
V week exercises	Means and methods of scientific research. Means of scientific research.			
VI week lectures	Research methods. Organization of scientific research. Gathering facts in the methodology of scientific work. General method, concept of methods and types of methods in the methodology of scientific-research work.			
VI week exercises	Research methods. Organization of scientific research. Gathering facts in the methodology of scientific work. General method, concept of methods and types of methods in the methodology of scientific-research work.			
VII week lectures	Techniques of scientific-research work.			
VII week exercises	Techniques of scientific-research work.			
VIII week lectures	Scientific research design. Research project (plan). Stages of scientific-research work: source of research areas and topics; scientific informatics; study of existing literature; working hypothesis; goal of the work.			
VIII week exercises	Scientific research design. Research project (plan). Stages of scientific-research work: source of research areas and topics; scientific informatics; study of existing literature; working hypothesis; goal of the work.			
IX week lectures	Colloquium			
IX week exercises	Colloquium			
X week lectures	Scientific research technology. Data collection strategy. Planning and performing an experiment. Pilot study. Data analysis and processing.			

X week exercises	Scientific research technology. Data collection strategy. Planning and performing an experiment. Pilot study. Data analysis and processing.					
XI week lectures	Organization of collective scientific research.					
XI week exercises	Organization of collective scientific research.					
XII week lectures	Presentation of scientific results: oral presentation and poster presentation; Types of professional and scientific papers.					
XII week exercises	Presentation of scientific results: oral presentation and poster presentation; Types of professional and scientific papers.					
XIII week lectures	Structure and writing of a scientific paper. Techniques of writing a scientific paper.					
XIII week exercises	Structure and writing of a scientific paper. Techniques of writing a scientific paper.					
XIV week lectures	Scientific journals and international databases.					
XIV week exercises	Scientific journals and international databases.					
XV week lectures	Scientific criticism. Scientific ethics.					
XV week exercises	Scientific criticism. Scientific ethics.					
Student workload						
Per week			Per semester			
10 credits x 40/30=13 hours and 20 minuts 4 sat(a) theoretical classes 1 sat(a) practical classes 2 excercises 6 hour(s) i 20 minuts of independent work, including consultations			Classes and final exam: 13 hour(s) i 20 minuts x 16 =213 hour(s) i 20 minuts Necessary preparation before the beginning of the semester (administration, registration, certification): 13 hour(s) i 20 minuts x 2 =26 hour(s) i 40 minuts Total workload for the subject: 10 x 30=300 hour(s) Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) 60 hour(s) i 0 minuts Workload structure: 213 hour(s) i 20 minuts (courses), 26 hour(s) i 40 minuts (preparation), 60 hour(s) i 0 minuts (additional work)			
Student obligations			Attendance at lectures is mandatory, as well as homework and colloquia.			
Consultations						
Literature			1. Alexander M. Novikov, Dmitry A. Novikov – Research Methodology: From Philosophy of Science to Research Design. CRC Press, 130 pp. ISBN 97811380003081. 2. Briscoe, M.H. 1996. Preparing scientific illustrations: a guide to better posters, presentations and publications. 2nd ed. Springer, New York. 3. Milankov V. i Kakšić P. (2006) Metodologija naučno-istraživačkog rada. PMF, Novi Sad.			
Examination methods			• colloquium: 20 points • homework: 30 points • final exam: 50 points			
Special remarks						
Comment						
Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points