

1. GENERAL INFORMATION			
1.1. Course teacher	Prof. Goran Sporiš, Ph.D. Assist. Prof. Vlatko Vučetić, Ph.D.	1.6. Year of the study programme	5
1.2. Name of the course	METHODOLOGY OF KINESIOLOGICAL RESEARCH	1.7. Credits (ECTS)	5
1.3. Associate teachers		1.8. Type of instruction (number of hours L + S + E + e-learning)	60 (30L+30S)
1.4. Study programme (undergraduate, graduate, integrated)	Integrated	1.9. Expected enrolment in the course	150
1.5. Status of the course	Mandatory	1.10. Level of application of e-learning (level 1, 2, 3), percentage of online instruction (max. 20%)	0
2. COURSE DESCRIPTION			
2.1. Course objectives	The acquisition of fundamental research methods used in kinesiology, which enable the follow-up of research stages: the research issue selection and approach, review of previous research on the issue, research goal setting, hypotheses formation, information collection (data: subject samples selection and the determination of manifest variables suitable to the chosen research theme), data analysis (analyses of the latent contents of the manifest variables, correlation, regression and canonical approach to the associations of the groups of variables, the determination of differences among the kinesiology typical groups of subjects, multidimensional scaling and taxonomic approach, the determination of quantitative and qualitative /structural changes), results interpretation. Report writing, presentation and publication of the research results (on paper, oral, multimedia). Approaches and criteria for the choice of area, adequate topic, and suitable methodology of the final (graduation/graduated specialist) paper. The elaboration and realization of the graduation paper project submission and registration.		
2.2. Course enrolment requirements and entry competences required for the course	No enrolment requirements.		
2.3. Learning outcomes at the level of the programme to which the course contributes	The level of the gained theoretical and practical knowledge of scientific research and professional work methodology will allow the students to approach responsibly to the selection of area, adequate topic, and adequate methodology for simpler research design in kinesiology. Based on the insights into basic results of the research on the influence of physical activity on the human psychosomatic system, the students will be able to recognize diverse options in the process of defining relevant parameters of the general model of kinesiological transformational process with the eventual (possible) changes of anthropological attributes, motor knowledge/skills, and health status/condition, as well as with the following educational and other effects of kinesiological transformations.		
2.4. Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	- Knowledge of recent research results and adequate research methodology, which empower the students with the ability to understand the results of scientific research and professional work in kinesiology.		

	<ul style="list-style-type: none"> - Knowledge of scientific-information sources browsing and search methodology: publications from the area of kinesiology and cognate and adjacent scientific disciplines. - Designing smaller theoretical or empirical investigations of kinesiological transformations with the focus on the possible changes of anthropological characteristics, motor knowledge/skills, and health status as well as on the educational and other kinesiological transformational effects. - Research methods in kinesiology: research issue choice and approach, review of previous research on the issue, research goal setting, hypotheses formulation, information collection (data: subjects samples selection and the determination of manifest variables suitable to the chosen research theme), data analysis (analyses of the latent content of the manifest variables, correlation, regression and canonical approach to the associations of the groups of variables, the determination of differences among the kinesiology typical groups of subjects, multidimensional scaling and taxonomic approach, the determination of quantitative and qualitative /structural changes), results interpretation. - Report writing, presentation and publication of the research results (on paper, oral, multimedia). - The students will be competent to approach responsibly to the selection of area, adequate topic, and adequate methodology of their final (graduation/graduated specialist) paper. The elaboration and realization of the graduation paper project submission. .
<p>2.5.Course content broken down in detail by weekly class schedule (syllabus)</p>	<p>Lectures</p> <ol style="list-style-type: none"> 1. Methodological fundamentals of research in kinesiology. Methodological principles and purposefulness of research. (L2) 2. Scientific foundation of the process of exercise; diagnostic and prognostic operations. Autonomy, interdisciplinarity and the subject of research in kinesiology. (L2) 3. Training, education, qualification and organizational forms of scientific research and professional work in the branches of kinesiology. (L1) 4. Types of research: fundamental, applicative and developmental. Theoretical and empirical research in kinesiology. (L1) 5. Topics of scientific research and their position in relation to the structure of kinesiology as well as to the relation of kinesiology to other scientific fields and disciplines. (L2) 6. Periodical publications in the field of kinesiology and other cognate and adjacent scientific disciplines. (L2) 7. Research methods in kinesiology: Research structure and stages. Issue formulation, previous research survey. Research objectives.(L1) 8. Research methods in kinesiology: Methods for hypotheses generation. (L1) 9. Research methods in kinesiology: Methods for information (data) collection. (L2) 10. Research methods in kinesiology: Methods for data analysis (processing). (L2) 11. Research methods in kinesiology: Results interpretation. (L2) 12. Report writing, presentation and publication of the research results (on paper, oral, multimedia). (L2) 13. Scientific and professional paper composing. Individual and team work, authorship and patents. (L2) 14. The procedure and criteria for the requests submission for the endorsement of the topic of the graduation thesis. (L2) 15. Criteria for the selection of subject samples and the determination of manifest variables adequate to the chosen paper topic. (L2) 16. Research model with the analysis of the latent contents of manifest variables in kinesiology and cognate and adjacent scientific disciplines. (L2) 17. Research model for the correlation, regression and canonical approach to the associations among groups of variables. (L2)

18. Research model for the determination of differences between typical groups of kinesiological subjects. (L2)
 19. Research model for multidimensional scaling and taxonomic approach to kinesiological phenomena. (L2)
 20. Research model for the determination of quantitative and qualitative (structural) changes. (L2)
 21. Elaboration and production of the graduation paper project and its submission. (L2)
- Seminars** (2 contact hours are allocated to each topic)
1. Formation of groups, work organization and the basic seminar attendance record keeping base establishment.
 2. Analysis of personal academic achievements during study (personal index data, reference data of the generation/study year); personal rationale for the enrolment on the study of kinesiology, expectations and realization at the Faculty of Kinesiology (essay – a free form of written expression, teaching aid materials (Quick Study – Essays & Term Papers).
 3. Overview of periodical publications (scientific and professional papers) from the field of kinesiology and cognate and adjacent scientific disciplines. The selection of contributions indicating students' area of interests as regards the structure of kinesiology and research subject. Fundamental and applied research studies in kinesiology-related publications.
 4. Manifest variables and indicators relevant to the description of kinesiological phenomena in kinesiology and adjacent scientific areas. – 4.1. BASIC ANTHROPOLOGICAL ATTRIBUTES – 4.1.1. Morphological characteristics. Scientific and professional meetings. Presentation skills (teaching aid materials – Quick Study).
 5. Manifest variables and indicators relevant to the description of kinesiological phenomena in kinesiology and adjacent scientific areas. – 4.1. Basic anthropological attributes. – 4.1.2. Motor abilities. – 4.1.3. Functional abilities. Preparation of the accompanying teaching aid material (posters and/or multimedia).
 6. Manifest variables and indicators relevant to the description of kinesiological phenomena in kinesiology and adjacent scientific areas. – 4.1. Basic anthropological attributes. – 4.1.4. Cognitive abilities, conative features (personality traits), socio-economical status, micro-social status, attitudes, values and interests and motivation. The representativeness of the samples of subjects and variables and feasibility to generalize the obtained results.
 7. Manifest variables and indicators relevant to the description of kinesiological phenomena in kinesiology and adjacent scientific areas. – 4.2. Criterion attributes of participants in kinesiological activities. – 4.2.1 Manifest specific situational dimensions of kinesiological activities. – 4.2.2. Manifest situational dimensions of activity registration. Measurability of kinesiological phenomena.
 8. Integrity, reliability and metric characteristics of data. Manifest variables and indicators relevant to the description of kinesiological phenomena. .
 9. Bivariate approach to the analysis of associations between variables and indicators in kinesiological investigations.
 10. Latent contents of the manifest variables in kinesiology and cognate scientific disciplines.
 11. Multivariate upgrade of the analysis of associations among variables (general canonical correlation approach and its special cases) in kinesiological research.
 12. Taxonomy approach (methods of taxonomy/cluster analysis of multidimensional scaling) to kinesiological issues.

	<p>13. The determination of typical groups of differences among typical groups of subjects formed according to the kinesiology relevant criteria.</p> <p>14. Methods for the determination of kinesiological treatments' effects.</p> <p>15. Topic choice, formal requirements and methodology of the graduation paper theme submission.</p>					
2.6.Format of instruction:	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> on line in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work	<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia and the internet <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)	2.7.Comments:			
2.8.Student responsibilities						
2.9.Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)	Class attendance	0.5	Research	1.0	Practical training	
	Experimental work		Report	0.5	(other)	
	Essay		Seminar essay	1.0	(other)	
	Tests		Oral exam	1.0	(other)	
	Written exam	1.0	Project		(other)	
2.10. Grading and evaluating student work in class and at the final exam	<p>Class attendance 10%</p> <p>Written exam 20%</p> <p>Research 20%</p> <p>Report 10%</p> <p>Seminar essay 20%</p> <p>Oral exam 20%</p>					
2.11. Required literature (available in the library and via other media)	Title			Number of copies in the library		Availability via other media
	1. Hoffman, J. S., and C. J. Harris (2000). Introduction to kinesiology. Champaign, IL: Human Kinetics Publishers, Inc.					
	2. Silobrčić, V. (1998). Kako sastaviti, objaviti i ocijeniti znanstveno djelo. Zagreb: Medicinska naklada					
	3. Vujević, M. (2000). Uvod u znanstveni rad. Zagreb: Školska knjiga.					
2.12.Optional literature (at the time of submission of study programme proposal)	<p>1. Halmi, A. (1999). Temelji kvantitativne analize u društvenim znanostima. Zagreb: Alinea.</p> <p>2. Prot, F. (1996). Metode, modeli i algoritmi za analizu kvalitativnih promjena pod utjecajem kinezioloških transformacijskih operatora. (Disertacija), Zagreb: Fakultet za fizičku kulturu Sveučilišta u Zagrebu.</p> <p>3. Sparks, A. C. (Ed.) (1992). Research in physical education and sport - Exploring alternative visions. The Elmer Press, London, Washington D.C.</p> <p>4. Supek, R. (1981). Ispitivanje javnog mnijenja. Zagreb: SNL.</p> <p>5. Mraković, M. (1994). Uvod u sistematsku kineziologiju. Zagreb: Fakultet za fizičku kulturu.</p>					

2.13. Quality assurance methods that ensure the acquisition of exit competences

Anonymous student survey.

