



UNIVERZITET U SARAJEVU  
FACULTET SPORTA I TJELESNOG ODGOJA  
Broj akta: 011-2897-1/23  
Datum: 26.06.2023.

CHANGES AND AMENDMENTS TO THE EXISTING STUDY PROGRAM OF  
THE THIRD CYCLE OF STUDIES

KINESIOLOGY  
Faculty of Sport and Physical Education

Sarajevo, 2023. year



---

CONTENT

GENERAL PART	3
Study title	3
Title	3
Study holder	3
Admission requirements for candidates	3
Duration of study	4
Conditions for conducting studies	4
Educational objectives of the study program and doctoral candidate competencies	5
Student obligations and progression through the program	5
First year	5
Second year	6
Third year	8
Model publication to dissertation	10
Guidance through study and mentoring	11
Teachers	11
DESCRIPTION OF THE STUDY PROGRAM	11
Structure and organization of the study program	11
Model publication to dissertation	12
Scientific research activities	13
Activities during the study semesters and years	14
First year	15
Second year	16
Third year	18
Plan and program of the III cycle of studies	19
List of all courses with the number of ECTS study points	20
Syllabus of the doctoral study program - Kinesiology	21
Compulsory subjects	21
Optional subjects	37



---

## GENERAL PART

In the third cycle of studies – doctoral studies in Kinesiology, at the Faculty of Sport and Physical Education, University of Sarajevo, doctoral students will acquire scientific knowledge and develop abilities for independent scientific research work, contributing new scientific results and original contributions to the development of scientific thought in the field of kinesiology. The study program of the third cycle at the University of Sarajevo - Faculty of Sport and Physical Education, doctoral studies in Kinesiology, consists of teaching, scientific research work, and the preparation and defense of a doctoral dissertation. Teaching is conducted through lectures, workshops, seminars, discussions, and practical work, and it can also be consultative/mentoring, depending on the number of participants. Scientific research work within the doctoral thesis is valorized through seminars, namely the preparation and defense of the doctoral thesis. Lectures on mandatory and elective subjects aim to expand candidates' knowledge, primarily methodologies within the candidate's thesis area, covering various areas of contemporary research in kinesiology. Consultative work with candidates and block teaching are optional. The foundation of this study is scientific research within the framework of doctoral studies that candidates will conduct at the University of Sarajevo - Faculty of Sport and Physical Education and in educational facilities with scientific research teams in various disciplines, as needed, in laboratories of other institutions that have adequate equipment necessary for research. Doctoral studies are organized in accordance with the Rules of Study for the third cycle of studies at the University of Sarajevo, the Law on Higher Education of the Sarajevo Canton, and the Statute of the University of Sarajevo. Completion of the third cycle of studies provides competence in independently conceiving, organizing, and implementing demanding research programs and projects within the scientific field of kinesiology, as well as independently preparing and evaluating reports and presenting the results of programs and projects.

### Study title

The title of the study program is the third cycle of studies – Doctoral Studies in Kinesiology.

### Title

Upon completion of the third cycle of study, the doctoral study in Kinesiology, the candidate earns the title of Doctor of Kinesiological Sciences.

### Study holder

The study holder is the University of Sarajevo - Faculty of Sport and Physical Education.

### Admission requirements for candidates

Announcement of the competition for student enrollment is published in at least one daily newspaper published in Bosnia and Herzegovina on the website of the Faculty and University of Sarajevo, as well as on the notice boards of the Faculty and University of Sarajevo. (Article 21 of the University Rules) The doctoral study council forms a commission that prepares the ranking list.



---

The proposal of the ranking list is submitted to the Faculty Council of the Faculty of Sport and Physical Education, University of Sarajevo (hereinafter referred to as the Faculty Council) for final approval. The final list of students is submitted to the Senate of the University of Sarajevo. (Article 25 of the University rules)

Under equal conditions, candidates from Bosnia and Herzegovina and abroad may apply for the competition: who have completed the second cycle of studies at the Faculty of Sport and Physical Education or at other related faculties within the groups of social, medical, biotechnical, natural, humanities, and technical sciences, thereby acquiring a minimum of 300 ECTS study points; who have obtained a master's degree in Kinesiology and other related social, medical, biotechnical, natural, humanities, and technical sciences before the introduction of the Bologna system of studies. These candidates are recognized with 60 (ECTS) credits upon enrollment in the third cycle of studies; foreign citizens applying for the competition provided they submit a resolution on the recognition of the acquired diploma.

The tuition fee for the academic year (two semesters) will be determined in accordance with the Decision of the Government of the Sarajevo Canton (2009), valid Decisions of the competent authorities of the University of Sarajevo, and the Faculty Council. The competition is announced for candidates whose number is in line with the current resources of the Faculty of Sport and Physical Education.

#### Duration of study

The third cycle of studies lasts for three academic years (six semesters), and the study program of these studies is valued at 180 ECTS study points. Doctoral students can extend each academic year for one additional year, so they must complete their studies within a maximum of six years from the date of enrollment.

The deadline from the previous paragraph of six years may be extended for one more year, counting from the expiration date determined by the Law on Higher Education of the Sarajevo Canton. (Article 25 of the University rules)

Students enrolling in the third cycle of study program with a master's degree, based on the student's request and the decision of the Doctoral Study Council, are granted 60 ECTS credits based on attending classes and passing exams. (Article 22 of the University rules)

Rules of Study for the third cycle of studies at the University of Sarajevo). In this way, the workload for these students in the doctoral program amounts to 120 ECTS credits, which the student needs to achieve through the completion of obligations envisaged in the III, IV, V, and VI semesters of study.

#### Conditions for conducting studies

Teaching is conducted by professors of the University of Sarajevo - Faculty of Sport and Physical Education, as well as visiting professors from both within the country and abroad. Classes will be held at the premises of the Faculty of Sport and Physical Education, University of Sarajevo.



#### Educational objectives of the study program and doctoral candidate competencies

The study program of the third cycle of studies, doctoral studies in Kinesiology, is fully profiled as a research-academic study program and aims to provide the highest, third level, university education, i.e., the title of Doctor of Sciences.

The program, through candidate involvement in scientific research, interactive methods of knowledge transfer and acquisition, as well as independent planning, implementation, and defense of the doctoral thesis, aims to equip candidates for independent planning and execution of research in the field of study.

The study belongs to the scientific area of Social Sciences in the field of Kinesiology.

The third cycle of studies, doctoral studies in Kinesiology, with its team of teachers and subjects offered to candidates, covers practically all branches of this scientific field. The study aims to enable:

- systematic understanding of the scientific field of kinesiology,
- ability for independent research work in kinesiology,
- competence in synthesizing, designing, implementing, and accepting processes based on scientific achievements,
- capability for independent original research that expands the boundaries of knowledge through scientific work, some parts of which deserve publication in domestic and international reference publications,
- capacity for critical analysis, evaluation, and synthesis of new and complex ideas, and
- formation of attitudes that ethically promote technological and social progress based on knowledge in academic and professional contexts.

Completion of the third cycle of studies provides competence in independently conceiving, organizing, and executing demanding research programs and projects within the scientific field of Kinesiology, as well as independent preparation and evaluation of reports and presentation of program and project results. For these general competencies, students will be prepared through teaching in the subjects of the study program, especially through research work and the preparation of their doctoral dissertation. In this way, students' abilities will be developed to lead to their competence in:

- analysis, evaluation, and synthesis in problem setting and solving,
- scientifically grounded assessment of practice requirements within Kinesiology and the application of scientific knowledge in practice,
- mastery and communication of in-depth knowledge in the field of Kinesiology, and
- teamwork and independent, reasoned assessment, judgments, and decisions.

#### Student obligations and progression through the program

##### First year

In the first semester, the student enrolls in six compulsory subjects: Research methodology in kinesiology, Systematic kinesiology, Kinesiometrics, Applied statistics in kinesiology, Kinesiological anthropology and Writing a scientific article in kinesiology.



The Study Council determines the list of responsible teachers participating in the implementation of the third cycle of studies. The Study council assigns a supervisor to the doctoral student upon enrollment in the program.

The supervisor, as a teacher, participates in the implementation of the study and is a potential mentor who guides and monitors the doctoral student and their work until the mentor is appointed. (Article 19 of the University rules).

The doctoral student has the right to change the supervisor once upon a written request to the study council (Form 3), (Article 18 of the University rules).

In the second semester, the student selects one of the elective courses: Kinesiological and anthropological analysis in team sports, Kinesiological and anthropological analysis in winter sports, Kinesiological and anthropological analysis in education, Kinesiological and anthropological analysis in combat sports, Kinesiological and anthropological analysis in basic sports, Kinesiological and anthropological analysis in recreation, Kinesiological and anthropological analysis in kinesiotherapy and APA and Research in organization and management in kinesiology.

Lectures for compulsory subjects are held regardless of the number of enrolled candidates, while for elective subjects, if there are 3 (three) or more participants. For a smaller number of participants, the classes are consultative (Article 12 of the University rules). To receive a signature, the student must fulfill all obligations of the subject (attended lectures, active participation in workshops, practical classes, seminars, and consultations).

During the second semester of study, the doctoral student chooses a branch of the research topic and, together with the supervisor, defines the branch and topic of the doctoral dissertation. The application form for the doctoral dissertation topic is an integral part of these Rules. (Form DS 1) The topic of the doctoral dissertation is confirmed by the study council. (Article 29 of the University rules).

By the end of the second semester, the supervisor is obliged to submit a report on the work of the doctoral student using the prescribed form. (Form DS 5) The report from the previous paragraph of this article is submitted to the study council for approval. (Article 19 of the University rules).

#### Second year

In the third semester, the student submits the Project of the doctoral dissertation to the Council of the third cycle of studies of the Faculty of Sport and Physical Education, using the form that is an integral part of the Rules of the third cycle of studies (Form DS 2), which must include:

- a) candidate's biography/CV,
- b) working title of the thesis,
- c) mentor proposal
- d) introductory notes and overview of previous research,
- e) subject and objectives of the research,
- f) narrower research area,
- g) methodological approach,
- h) expected results and scientific/artistic contribution, and
- i) used literature (Article 30 of the University rules)



By the end of the first half of the third semester, the Council of the third cycle of studies proposes to the Faculty Council, and the Faculty Council to the University Senate, the composition of the Committee for the assessment and defense of the project, working version, and doctoral dissertation (hereinafter: University Commission). One of the members of the Committee is proposed to be the mentor.

By the end of the third semester, the University Senate, with the prior opinion of the group council, appoints the University Commission. The Commission consists of three or five members. The Commission consists of five members when it comes to a commission having two mentors for reasons prescribed (Article 20, paragraph 4, of the University Rules).

The Commission must also have one alternate member. All members of the Commission are selected from the ranks of teachers holding a doctoral degree, with the majority being from the field related to the submitted topic. The person assigned the role of mentor cannot be appointed as the Commission's president. The Commission conducts the entire process of assessing and defending the doctoral dissertation project, the working version of the doctoral dissertation, and the final version of the doctoral dissertation.

Exceptionally, in cases where Commission members are appointed from the ranks of university teachers from other countries, separate commissions may be appointed for defending the doctoral dissertation project and the working version of the doctoral dissertation, and a commission for assessing and defending the final version of the doctoral dissertation. It is also possible in such a situation for the alternate member to participate in the earlier stages of assessing and defending the doctoral dissertation. (Article 31 of the University rules)

In the fourth semester, the student is required to defend the doctoral dissertation project. The defense of the doctoral dissertation project is public and is defended before the University Commission.

The University Commission prepares a report on the doctoral dissertation project, which must include an assessment of the candidate's suitability and the suitability of the doctoral work topic, and submits it through the Council of the third cycle of studies and the Faculty Council to the University Senate, using the form that is an integral part of the Rules of the third cycle of studies (Form DS 6). After the Council of the third cycle of studies, the Faculty Council, and the University Senate accept the report of the University Commission, the doctoral student can begin the implementation of the doctoral dissertation project. (Article 32 of the University rules).

If the University Commission has any objections to the submitted doctoral dissertation project, it is returned to the doctoral student for revision. The student is required to submit the revised version of the doctoral dissertation project to the University Commission within 30 days of receiving the objections from the University Commission.

After the revised version of the doctoral dissertation project is submitted, the University Commission prepares a report on the revised doctoral dissertation project, which must include an assessment of the candidate's suitability and the suitability of the doctoral work topic, and submits it through the Council of the third cycle of studies and the Faculty Council to the University Senate. (Article 32 of the University rules).



### Third year

In the fifth semester, the student conducts scientific research within the scope of the doctoral thesis. By the end of the fifth semester at the latest, the student submits the scientific research within the thesis, presents and defends a part of the achieved research and results within the doctoral thesis. The Council of the doctoral study forms a Committee before which the candidate defends the achieved research and results.

In the sixth semester, the student is obliged to obtain a positive opinion from the mentor and submit the working version of the doctoral dissertation to the study council by the end of the sixth semester. The submission of the working version of the doctoral dissertation is done using the form that is an integral part of the Rules (Form DS 7). (Article 35 of the University rules)

The working version of the doctoral dissertation should be linguistically, stylistically, and technically correct in accordance with contemporary procedures, techniques, and technologies for publication in the field of scientific, professional, or artistic work. The doctoral student is obliged to submit the working version of the doctoral dissertation to the study council.

The submission of the working version of the doctoral dissertation is done through the Faculty protocol. (Article 37 of the University Rules) In agreement with the doctoral student and the Commission's president, the secretary of the study council schedules the presentation of the working version of the doctoral dissertation. (Article 38 of the University rules).

The procedure for presenting the working version of the doctoral dissertation is carried out before the University Commission, with the presence of the secretary of the study council, the rapporteur, the doctoral student, as well as teachers from the field in which the doctorate is defended and other interested parties, without the possibility of asking questions or interrupting the doctoral student. Members of the University Commission have the right to interrupt the doctoral student and request explanations.

The doctoral student's presentation, observations, and comments from the members of the University Commission should be in the form of dialogue.

The doctoral student is obliged to incorporate the remarks of the members of the University Commission into the corrected working version of the doctoral dissertation and submit it in printed and electronic form within 90 days from the date of the presentation.

A report on the conducted procedure is submitted to the study council, using the form that is an integral part of these Rules (Form DS 8). (Article 39 of the University rules)

After submitting the corrected working version, according to the Regulation on the use of plagiarism detection software (similarity check procedure), the organizational unit is obliged to submit the PDF document of the corrected doctoral dissertation to the Publishing Service of the University of Sarajevo. The written opinion of the Committee for assessing the doctoral dissertation on the results of checking the doctoral dissertation using plagiarism detection software, as determined by the Regulation on the use of plagiarism detection software, is an integral part of the report submitted by the Committee to the Faculty council, which the Faculty submits to the University Senate. (Article 40 of the University rules)





After the procedure for presenting the working version of the doctoral dissertation in accordance with Article 40 and submitting the corrected working version of the doctoral dissertation, the University Commission prepares a Report on the assessment of the doctoral dissertation, which contains an assessment of the presentation of the work results presented in the doctoral dissertation and submits it to the doctoral study council within 30 days together with the corrected working version of the doctoral dissertation. The report is submitted using the form that is an integral part of these Rules (Form DS 9). (Article 41 of the University rules)

The study council makes a decision on accepting the report of the University Commission within ten days and submits it to the Faculty council. (Article 41 of the University Rules).

Upon receiving the decision to accept the University Commission's report, the University unit shall announce on its notice board, website, and in the media that the University Commission's report and the corrected working version of the doctoral dissertation are available for public inspection.

The notice shall include:

- a) the name of the doctoral candidate,
- b) the institution where the doctoral candidate is employed,
- c) the title of the doctoral dissertation,
- d) the composition of the University Commission for the evaluation and defense of the project, the working version, and the doctoral dissertation, and
- e) the place and time for reviewing the working version of the doctoral dissertation.

The corrected working version of the doctoral dissertation and the Report on the assessment of the doctoral dissertation remain available for public inspection for 30 days in the designated room of the organizational unit.

Any comments and suggestions from the public shall be considered by the University Commission, and within 30 days, they shall be submitted to the study council. The study council shall decide on accepting the University Commission's report on public comments and suggestions within 15 days and submit it to the organizational unit council. (Article 42 of the University rules)

After the deadline, the Faculty council considers the University Commission's report and the received public comments and proposes to the University Senate to accept, reject, or return the proposal for the doctoral dissertation for revision or modification. The University Senate verifies the report and the proposal of the organizational unit council.

In case the organizational unit council accepts the working version of the doctoral dissertation, the doctoral candidate is obliged to prepare the final version of the doctoral dissertation within 60 days from receiving the decision of the organizational unit council, provide the required number of copies, and submit at least one paper published in journals covered by relevant international databases, as prescribed by the competent body. (Article 43 of the University rules)

If the organizational unit council returns the proposal for the doctoral dissertation for revision or modification, and the doctoral candidate does not comply with the comments and suggestions and does not submit the revised working version of the doctoral dissertation within six months from the date of receiving the notification of such decision, the study council informs the Faculty council, which decides that the doctoral candidate has withdrawn from the program. (Article 43 of the University rules).



If the organizational unit council rejects the working version of the doctoral dissertation, the candidate loses the status of a doctoral candidate, and the working version of the doctoral dissertation is registered as rejected. The rejected working version of the doctoral dissertation cannot be resubmitted.

After the Senate adopts the Report, the Faculty determines the place, date, and time of the doctoral dissertation defense. The public defense of the doctoral dissertation is organized no later than 30 days from the date of the University Senate's decision. (Article 45 of the University Rules)

The doctoral program concludes with the defense of the doctoral dissertation before the University Commission. The doctoral dissertation must make a scientific contribution to the research field, demonstrate the student's ability to conduct independent research, show mastery of theoretical foundations and familiarity with current scientific literature, and demonstrate the student's ability to evaluate scientific ideas through research.

The doctoral dissertation is submitted prior to the public defense in ten hardbound copies and five electronic copies, which meet the following standards:

The cover of the doctoral dissertation must include the name and surname of the doctoral candidate, the title of the doctoral dissertation, the name and surname of the mentor, the name of the organizational unit, and the year of the doctoral dissertation defense.

The title page of the doctoral dissertation must include the name and surname of the doctoral candidate, the title of the doctoral dissertation, the name and surname of all members of the doctoral dissertation defense committee, indicating their roles in the committee (chair, mentor, member), the name of the organizational unit, and the year of the doctoral dissertation defense.

A comparative English version of the title page (with all listed elements).

An abstract (300 to 500 words) with up to 8 keywords/terms in Bosnian and English. After the defense of the doctoral dissertation, the student is required to publish the doctoral dissertation in the Repository of doctoral dissertations within 30 days from the successful defense of the doctoral dissertation.

The publication of the doctoral dissertation in the Repository of final papers and doctoral dissertations of UNSA is carried out through self-archiving of doctoral dissertations by the authors. (Law on Higher Education of the Sarajevo Canton, Article 72, Paragraph 2). Authors must store the entire text of the dissertation, as well as the abstract of the dissertation in the language it was written in and in English within 500 words. Archiving the doctoral dissertation in the Repository is a condition for issuing a diploma for the acquired academic title and scientific/artistic title of Doctor of Science/Arts. Within 30 days from the successful defense of the doctoral dissertation, the administrator in the organizational unit where the doctoral dissertation was defended enters the metadata for that dissertation on the designated form. During the study, the student is obliged to conduct scientific research activities.

#### Model publication to dissertation

The Council of the III cycle of studies may, upon reasoned proposal of the mentor, approve the preparation of a doctoral dissertation according to the publication model up to the dissertation for a doctoral candidate who meets the requirements.



The publication model up to the dissertation consists of a collection of published scientific papers accompanied by a critical review chapter, which consists of an introduction, discussion, conclusion, and review of relevant literature. The publication model up to the dissertation is only possible within the framework of scientific research work in the doctoral study program, and scientific papers must be published or accepted for publication after enrollment in the doctoral study program.

The consolidated scientific papers proposed as a doctoral thesis must constitute a coherent whole of at least three papers published/accepted for publication in journals covered by the Current Contents (Web of Science) database.

The doctoral candidate must be the first/main author in all three published papers. (Article 34 of the University rules).

#### Guidance through study and mentorship

Consultation and guidance of students throughout the study are carried out by a mentor or supervisor.

The mentor is appointed in the third semester. The mentor can be a teacher appointed to the position of associate professor, full professor, professor emeritus, senior research associate, or research advisor in the scientific/artistic field of the doctoral dissertation, who has at least five papers published in journals covered by international databases prescribed by the competent authority, of which at least three are in the last five years in the scientific field relevant to the candidate's doctoral dissertation.

#### Teachers

Teachers participating in the doctoral program hold academic titles of assistant professor, associate professor, full professor, or professor emeritus (cannot be the subject coordinator).

### DESCRIPTION OF THE STUDY PROGRAM

#### Structure and Organization of the Study Program

The doctoral study program is aligned with the European Credit Transfer and Accumulation System (ECTS), with a total of 180 ECTS credits.

The third cycle of studies, Doctoral Study in Kinesiology, lasts for 3 (three) years and consists of 6 (six) semesters.

One ECTS credit is calculated as a workload of 25 hours of the doctoral candidate's total workload across all forms of work, totaling 750 hours per semester. According to the credit system, the credit value of study content (courses, seminars, research activities, dissertation projects, doctoral dissertations, etc.) is determined.

Courses that the candidate attends and passes carry 40 ECTS credits, research activities carry 70 ECTS credits, and thesis development and evaluation of results with the final defense carry 70 ECTS credits, totaling 180 ECTS credits.



---

The curriculum includes six compulsory courses for all students in the first semester and eight elective courses in the second semester. Compulsory courses in the first semester are: Research methodology in kinesiology (5 ECTS), Systematic kinesiology (5 ECTS), Kinesiological anthropology (5 ECTS), Kinesiometry (5 ECTS), Applied statistics in kinesiology (5 ECTS), and Writing a scientific article in kinesiology (5 ECTS).

Elective courses are taken in the second semester:

- Kinesiological and anthropological analysis in team sports (10 ECTS)
- Kinesiological and anthropological analysis in winter sports (10 ECTS)
- Kinesiological and anthropological analysis in education (10 ECTS)
- Kinesiological and anthropological analysis in combat sports (10 ECTS)
- Kinesiological and anthropological analysis in basic sports (10 ECTS)
- Kinesiological and anthropological analysis in recreation (10 ECTS)
- Kinesiological and anthropological analysis in kinesiotherapy and APA (10 ECTS)
- Research in organization and management in kinesiology (10 ECTS)

During the course, in addition to teachers, domestic and foreign experts in Kinesiology may also participate, and the thematic teaching units are determined by the Council of doctoral study before the start of the teaching process. After completing a course, the student chooses one of the presented topics to write a doctoral article on and publicly defends it. All participants, the teacher who taught the thematic unit, and the responsible subject teacher can attend the defense of this paper. Teaching in one semester takes place over 15 weeks, and block teaching is also possible, with a decision made by the Council of doctoral study.

During the study, and no later than before attending the public defense of the doctoral dissertation, the doctoral candidate must submit at least one paper published in journals covered by relevant international databases listed by the competent authority. (Article 43 of the University rules).

Teaching of compulsory and elective subjects is carried out during the first and second semesters of study. In the remaining part of the study, the doctoral candidate is trained through research work to conduct independent scientific research. During the study, the doctoral candidate must complete the required number of ECTS credits according to the criteria specified in Table 1 and Table 2.



Table 1. Criteria for realization of ECTS points

	Criteria	ECTS
1.	Attending classes and taking exams	40
2.	Doctoral Dissertation:	
	Scientific research activities of doctoral students*	70
	Submission of the topic of the doctoral dissertation	10
	Application for a doctoral dissertation project	10
	Doctoral dissertation project (defended)	10
	Research work - preparation of a doctoral dissertation thesis**	30
	Public defense of doctoral dissertation (defended)	10
	<b>Total for doctoral dissertation</b>	<b>140</b>
	<b>TOTAL ECTS</b>	<b>180</b>

\*Scientific research activities are presented in Table 3.

\*\*Preparing the thesis of the doctoral dissertation involves research work - presentation of the written work, submission of the draft version, presentation of the draft version.

Table 2. Model publication to dissertation

	Criteria	ECTS
1.	Attending classes and taking exams	40
2.	Doctoral Dissertation:	
	Scientific research activities of doctoral students*	70
	Submission of the topic of the doctoral dissertation	10
	Application for a doctoral dissertation project	10
	Doctoral dissertation project (defended)	10
	Research work - preparation of a doctoral dissertation thesis**	30
	Public defense of doctoral dissertation (defended)	10
	<b>Total for doctoral dissertation</b>	<b>140</b>
	<b>TOTAL ECTS</b>	<b>180</b>

\*Scientific research activities are presented in Table 3.

\*\*The preparation of the thesis of the doctoral dissertation involves consolidated scientific papers proposed as the doctoral thesis, which must constitute a complete set of at least three papers published/accepted for publication in journals covered by the Current Contents (Web of Science) database. The doctoral candidate must be the first/main author in all three published papers.



Table 3. Scientific research activities of doctoral students

Primary publications	ECTS
Published scientific article in journals that follow the relevant international database (Current Contents - Web of Science) with the corresponding Impact factor - first author	24
Published scientific article in journals that follow the relevant international database (Current Contents - Web of Science) with the corresponding Impact factor - co-author	20
Published scientific article in journals that follow the relevant international database (ECSI and Scopus) - first author	15
Published scientific article in journals that follow the relevant international database (ECSI and Scopus) - co-author	10
Published scientific article in journals that follow other relevant databases that are defined by the General Criteria for the Evaluation of Recognized Publications - first author	10
Published scientific work in journals that monitor the relevant database defined by the General Criteria for the Evaluation of Recognized Publications - co-author	5
Other scientific research activities	
Participation in the national scientific meeting with an oral presentation / poster presentation - first author	7
Participation in the domestic scientific meeting - co-author of the article / co-author of the poster presentation	3
Participation in an international scientific meeting with an oral presentation / poster presentation - first author	10
Participation in an international scientific meeting – co-author of an article / co-author of a poster presentation	5
Participation in a domestic project in the field of kinesiology	5
Participation in an international project in the field of kinesiology	5
Domestic/international Scientific training in the function of writing a thesis (up to 3 months)	8
Domestic/international Scientific training in the function of writing a thesis (over 3 months)	12

#### Activities during the study semesters and years

The third cycle study program consists of lectures, scientific research, and the preparation and defense of the doctoral dissertation. Teaching is conducted through lectures, workshops, discussions, seminars, and practical work, and may also be advisory/mentoring, depending on the number of participants. Scientific research within the doctoral thesis is valued through doctoral seminars, the registration of the dissertation topic, submission of the dissertation project, public presentation of the project, publication of papers, and the preparation and defense of the doctoral dissertation.



#### First year

During the first and second semesters, students attend classes and take exams in mandatory and selected elective subjects, according to the program and regulations of each subject.

In the first semester (Table 4), teaching is conducted for all participants in six mandatory subjects: Research Methodology in Kinesiology (5 ECTS), Systematic Kinesiology (5 ECTS), Kinesiological Anthropology (5 ECTS), Kinesiometrics (5 ECTS), Applied Statistics in Kinesiology (5 ECTS), and Writing a Scientific Article in Kinesiology (5 ECTS).

Table 4. First year – I semester (Compulsory subjects)

SUBJECT NAME	CODE	ECTS
Research methodology in kinesiology	DSK101	5
Systematic kinesiology	DSK102	5
Kinesiological anthropology	DSK103	5
Kinesitherapy	DSK104	5
Applied statistics in kinesiology	DSK105	5
Writing a scientific article in kinesiology	DSK106	5
Total		30

In teaching, assistant professors, associate professors, and full professors from the University of Sarajevo, as well as visiting professors from foreign universities with the consent of the Senate of the University of Sarajevo, participate. The coverage of methodological units is determined by the Council of the doctoral study before the start of the teaching process.

In the first semester, the Study Council assigns a supervisor to the doctoral student upon enrollment. The supervisor, as a lecturer, participates in the teaching process and may serve as a potential mentor, guiding and monitoring the doctoral student and their work until the appointment of a mentor. (Article 19 of the University rules)

From each mandatory and elective subject, the doctoral student is required to defend a doctoral seminar paper, defining the specific area of the research topic.

During the second semester of study, the doctoral student selects the research topic area and, together with the supervisor, defines the branch and topic of the doctoral dissertation (Form DS 1). The topic of the doctoral dissertation is confirmed by the Study Council. (Article 29 of the University rules).

The registration of the doctoral dissertation topic is a mandatory activity and carries 10 ECTS credits. The remaining 10 ECTS credits are obtained by choosing one of the scientific research activities listed in Table 3. (Reports Form 4 and 5).

Under the guidance of the supervisor, the student begins scientific research upon which they will develop their doctoral dissertation.

In the first year of study, the student can earn 60 ECTS credits, and to enroll in the second year of study, a minimum of 40 ECTS credits must be obtained.



In the second semester (Table 5), the student selects an elective subject: Kinesiological and anthropological analysis in team sports (10 ECTS), Kinesiological and anthropological analysis in winter sports (10 ECTS), Kinesiological and anthropological analysis in education (10 ECTS), Kinesiological and anthropological analysis in combat sports (10 ECTS), Kinesiological and anthropological analysis in basic sports (10 ECTS), Kinesiological and anthropological analysis in recreation (10 ECTS), Kinesiological and anthropological analysis in kinesiotherapy and APA (10 ECTS), Research in organization and management in kinesiology (10 ECTS).

Table 5. First year – II semester (Elective courses)

SUBJECT NAME	CODE	ECTS
Kinesiological and anthropological analysis in team sports	DSK201	10
Kinesiological and anthropological analysis in winter sports	DSK202	10
Kinesiological and anthropological analysis in education	DSK203	10
Kinesiological and anthropological analysis in combat sports	DSK204	10
Kinesiological and anthropological analysis in basic sports	DSK205	10
Kinesiological and anthropological analysis in recreation	DSK206	10
Kinesiological and anthropological analysis in kinesiotherapy and APA	DSK207	10
Research in organization and management in kinesiology	DSK208	10
Application of the topic of the doctoral dissertation	DSK209	10
Scientific research activities	DSKT3210	10
<b>Total</b>		<b>30</b>

### Second year

During the third semester (Table 6), the student can take exams in mandatory and elective subjects that were not completed during the first and second semesters.

The second year of study is intended for the student's research work (preparation and publication, or presentation of scientific papers, work on the doctoral dissertation).

Table 6. Second year – III semester

SUBJECT NAME	CODE	ECTS
Doctoral dissertation project (DS 2)	DSK301	10
Scientific research activities	DSKT3302	20
<b>Total</b>		<b>30</b>

During the third semester, the student submits the Doctoral dissertation project proposal to the Council of the third cycle of studies of the Faculty of sports and physical education (Form DS 2), which must include:

- a) candidate's biography/CV,
- b) working title of the thesis,
- c) proposed mentor,





- d) introductory notes and overview of previous research,
- e) subject and research objectives,
- f) specific research area,
- g) methodological approach,
- h) expected results and scientific/artistic contribution, and
- i) literature used. (Article 30 of the University Regulations)

The Council of the third cycle of studies reviews the Project proposal after obtaining prior approval from the Ethics committee regarding the ethical aspects of the research for the purpose of preparing the doctoral dissertation.

Submission of the Doctoral Dissertation Project Proposal is a mandatory activity and carries 10 ECTS credits.

By the end of the first half of the third semester, the Council of the third cycle of studies proposes to the Faculty council, and the Faculty council proposes to the University Senate, the composition of the Commission for the evaluation and defense of the project, working version, and doctoral dissertation. One of the Commission members is proposed as the mentor.

The remaining 20 ECTS credits are obtained by selecting some of the scientific research activities listed in Table 3. (Reports in Forms 4 and 5).

During the fourth semester (Table 7), the doctoral student is required to defend the doctoral dissertation project. The defense of the doctoral dissertation project is public and defended before the University Commission.

Table 7. Second year – IV semester

SUBJECT NAME	CODE	ECTS
Defense of doctoral dissertation projects (DS 6)	DSK401	10
Scientific research activities	DSKT3402	20
Total		30

The University commission prepares a report on the doctoral dissertation project, which must include an assessment of the suitability of the candidate and the topic of the doctoral work, and submits it through the Council of the Third Cycle of Studies and the Faculty Council to the University Senate (Form DS 6).

After the Council of the Third Cycle of Studies, the Faculty Council, and the University Senate decide to accept the report of the University Commission, the doctoral student can begin the implementation of the doctoral dissertation project. (Article 32 of the University Regulations)

The defense of the Project is a mandatory activity and carries 10 ECTS credits.

The remaining 20 ECTS credits are obtained by selecting some of the scientific research activities listed in Table 3. (Reports in Forms 4 and 5).

In the second year of study, a student can earn 60 credits, and to continue the study, it is necessary to earn a minimum of 40 credits.



### Third year

Continuing with the research work in the third year of study, the student primarily focuses on working on their doctoral dissertation and presenting scientific research papers.

In the fifth semester (Table 8), the student conducts scientific research within the framework of the doctoral thesis. By the end of the fifth semester at the latest, the student needs to achieve 10 ECTS credits through research activities: Thesis preparation - presentation of achieved research and results within the doctoral thesis, which the mentor presents through a report on the student's work to the study council (Article 20, paragraph 7 of the University Regulations - Form 5). The remaining 20 ECTS credits are obtained based on scientific research activities presented in Table 3. (Reports in Forms 4 and 5).

Table 8. Third year – V semester

SUBJECT NAME	CODE	ECTS
Research work - writing a thesis (DS 5)	DSK501	10
Scientific research activities	DSKT3502	20
Total		30

In the VI semester (Table 9), the student is required to obtain the mentor's positive opinion and submit the working version of the doctoral dissertation to the Council of studies by the end of the VI semester (Form DS 7). The submission of the working version of the doctoral dissertation is a mandatory activity and carries 10 ECTS credits. The doctoral candidate is obligated to submit the working version of the doctoral dissertation to the council of studies through the faculty protocol. Within one month from the submission of the working version, the secretary of the council of studies, in consultation with the doctoral candidate and the chairperson of the commission, schedules the presentation of the working version of the doctoral dissertation. (Article 38 of the University rules)

Table 9. Third year – VI semester

SUBJECT NAME	CODE	ECTS
Application for working version (DS 7)	DSK601	10
Defense of the working version of the doctoral dissertation	DSK602	10
Public defense of the doctoral dissertation	DSK603	10
Total		30

Council of Faculty of sports and physical education within 30 days together with the corrected working version of the doctoral dissertation. (Article 41 of the University rules).

Upon receipt of the Faculty Council's decision to accept the report of the University commission, the Faculty announces on its bulletin board, website, as well as in the media that the report of the University commission and the corrected working version of the doctoral dissertation are available to the public for 30 days.



Any comments and suggestions from the public are considered by the University commission, and within 30 days, the report is submitted to the Council of studies (Article 42 of the University rules), then it is forwarded to the Faculty Council and the Senate of the University of Sarajevo.

If the Council of the organizational unit accepts the working version of the doctoral dissertation, the doctoral candidate is required to prepare the final version of the doctoral dissertation within 60 days of receiving the decision of the Council of the organizational unit, submit it in the required number of copies, and submit at least one paper published in journals covered by relevant international databases from the registry of relevant scientific databases, as prescribed by the competent authority. (Article 43 of the University rules).

After the Senate adopts the Report, the Faculty determines the place, date, and time of the defense of the doctoral dissertation. The public defense of the doctoral dissertation is a mandatory activity and carries 10 ECTS credits. The candidate successfully completes the doctoral study if they have achieved 180 ECTS credits.

#### PLAN AND PROGRAM OF THE III CYCLE OF STUDY

Table 10. Framework plan of the study program of the third cycle of Kinesiology studies

Semester	Activity	Number of ECTS
I	Compulsory courses	(30)
	Optional subjects*	10
	Primary publications from Table 3	5
	Other scientific research activities from Table 3 Application	5
II	of the topic	10 (30)
III	Application for Doctoral Dissertation Project	10
	Scientific Research Activities**	20 (30)
IV	Defense of the Doctoral Dissertation Project	10
	Scientific research activities**	20 (30)
V	Presentation of achieved results	10
	Scientific research activities **	20 (30)
VI	Submission of the working version of the doctoral dissertation	10
	Defense of the working version of the doctoral dissertation	10
	Public defense of the doctoral dissertation	10
		(30)
Total		180

\*Elective subjects - the candidate selects in agreement with the appointed supervisor based on the principle of their relevance to the research topic that will result in the doctoral dissertation.

\*\* In accordance with Table 3.



List of all subjects with the number of ECTS study points

Table 11. List of all subjects with the number of ECTS study points

First year – I semester				
Subject name	Teaching			ECTS
	Lectures	Workshops	Seminars/ Discussions	
Compulsory courses				
Research methodology in kinesiology	15	15	15	5
Systematic kinesiology	15	15	15	5
Kinesiological anthropology	15	15	15	5
Kinesitherapy	15	15	15	5
Applied statistics in kinesiology	15	15	15	5
Writing a scientific article in kinesiology	15	15	15	5
First semester	Total ECTS			30
First year – II semester				
Optional subjects				
Optional subjects*	30	30	30	10
Primary publications				5
Other scientific research activities				5
Application of the topic of the doctoral dissertation				10
Second semester	Total ECTS			30
FIRST YEAR	TOTAL ECTS			60

\*subject from the offered optional subjects



SYLLABUS OF THE DOCTORAL STUDY PROGRAM - KINESIOLOGY  
Compulsory courses

Subject code: DSK101	RESEARCH METHODOLOGY IN KINESIOLOGY		
Cycle: III	Year: I	Semester: I	Number of ECTS credits:5
Status: Mandatory	Total number of hours: 125 Lectures: 15 Workshops: 15 Consultations/Seminars/Discussions: 15 Independent work: 80		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	Provide doctoral students with a basic understanding of scientific research methods and techniques used in kinesiology and related fields. Through this course, doctoral students will develop the skills necessary for planning, conducting and interpreting research in kinesiology, so that they can contribute to new knowledge and improve practice in the field of kinesiology.		
Thematic units:	Definition and purpose of research in kinesiology. Connection between research and practice in kinesiology. Qualitative and quantitative research in kinesiology. Research design in kinesiology: experimental and non-experimental. The development of the conceptual plan and the relevance of the research topic from the aspect of modernity and social significance. The process of setting research questions and identifying research problems in kinesiology. Understanding the concept of hypothesis, its role in research and criteria for formulating relevant and clear hypotheses. Entity sample selection procedures. Interpretation of research: basics of scientific reporting, scientific opinion and logic. Use of scientific language: observing and describing scientific phenomena. Analysis of scientific databases, citation and referencing rules. Ethical aspects of data collection, analysis and publication in kinesiology research.		
Learning outcomes	Knowledge: Understanding the basic principles of research in kinesiology, including formulating research questions and hypotheses. Familiarity with various research designs and their applications in kinesiology. Knowledge of quantitative and qualitative research methods and their application in kinesiology. Skills: Planning research in kinesiology, including formulating research questions, hypotheses, and selecting sample entities. Using scientific language to observe and describe scientific phenomena in kinesiology. Applying citation and referencing rules when conducting research in kinesiology. Competencies: Critically evaluating scientific papers and research projects in the field of kinesiology. Integrating theoretical knowledge and research methods to shape new understanding in kinesiology.		



	Independently planning, conducting, and managing research projects in the field of kinesiology. Applying a scientific-critical approach to understanding and solving complex problems in kinesiology.																		
Teaching methods	Lectures, group work and demonstration of innovative methods and technical procedures for creating complex kinesiology research.																		
Assessment methods with grading structure	<p>Prerequisite for taking the exam 80% class attendance</p> <hr/> <p style="text-align: center;">ASSESSMENT OF KNOWLEDGE AND EVALUATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Criterion</th> <th style="text-align: center;">Points</th> <th style="text-align: center;">Minimum number of points for the condition</th> </tr> </thead> <tbody> <tr> <td>Consultations</td> <td style="text-align: center;">10</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Workshops</td> <td style="text-align: center;">20</td> <td style="text-align: center;">11</td> </tr> <tr> <td>Seminars/Discussions</td> <td style="text-align: center;">30</td> <td style="text-align: center;">16</td> </tr> <tr> <td>Final exam*</td> <td style="text-align: center;">40</td> <td style="text-align: center;">22</td> </tr> <tr> <td>Total</td> <td style="text-align: center;">100</td> <td style="text-align: center;">55</td> </tr> </tbody> </table> <p>*Test: 5 &lt; 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9= 36-38 points; 10=39- 40 points</p>	Criterion	Points	Minimum number of points for the condition	Consultations	10	6	Workshops	20	11	Seminars/Discussions	30	16	Final exam*	40	22	Total	100	55
Criterion	Points	Minimum number of points for the condition																	
Consultations	10	6																	
Workshops	20	11																	
Seminars/Discussions	30	16																	
Final exam*	40	22																	
Total	100	55																	
Literature	<p>Mandatory:</p> <p>Čolakhodžić, E. (2021). <i>Metodologija i tehnologija naučnoistraživačkog rada</i>. Mostar: Nastavnički fakultet Univerziteta „Džemal Bijedić“.</p> <p>Čular, D., Šamija, K., Sporiš, G. (2017). <i>Kako pripremiti, napisati i objaviti znanstveni rad u kineziologiji i sportu</i>. Split: Kineziološki fakultet Sveučilišta u Splitu.</p> <p>Pupovac, V. (2018). <i>Akademsko pisanje</i>. Rijeka: Studentski zbor Sveučilišta u Rijeci.</p> <p><i>Referencing and Citation Styles: APA 7th</i> (2020). The University of Sydney. Dostupno na <a href="https://libguides.library.usyd.edu.au/citation/apa7">https://libguides.library.usyd.edu.au/citation/apa7</a></p> <p>Stojiljković, N., Bratić, M., Sporiš, G. (2020). <i>Naučno-istraživački rad u sportu i fizičkom vaspitanju</i>. Niš: Fakultet sporta i fizičkog vaspitanja Univerziteta u Nišu.</p> <p>Supplementary</p> <p>Prskalo, I., Sporiš, G. (2016). <i>Kineziologija</i>. Zagreb: Školska knjiga, Učiteljski fakultet Sveučilišta u Zagrebu i Kineziološki fakultet Sveučilišta u Zagrebu.</p> <p>Gratton, C, and Jones, I. (2010). <i>Research Methods for Sports Studies</i>. Second Edition. London and New York: Routledge.</p> <p>Zelenika, R. (2000). <i>Metodologija i tehnologija izrade znanstvenog i stručnog djela (četvrto izdanje)</i>. Rijeka: Ekonomski fakultet, Sveučilišta u Rijeci.</p>																		



Subject code: DSK102	SYSTEMATIC KINESIOLOGY		
Cycle:III	Year: I	Semester: I	Number of ECTS credits: 5
Status: Mandatory	Total number of hours: 125 Lectures: 15 Workshops: 15 Consultations/Seminars/Discussions: 15 Independent work: 80		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To provide doctoral students with advanced scientific understanding of the human body as an integrated and complex system and to apply scientific concepts and methodologies of systemic kinesiology to contribute to the advancement of research and practice in systemic kinesiology.		
Thematic units	<p>Systemic approach in kinesiology: Basic scientific concepts and principles of systemic kinesiology. Interaction of components within kinesiological systems. Application of mathematical and computational models for studying kinesiological phenomena. Integration of anatomy and physiology: Detailed analysis of anatomical structures of the human body and their functional connectivity. Physiological processes occurring in muscles, joints, nervous system, and other bodily systems. Research applying an integrative approach to anatomy and physiology for understanding kinesiological functions.</p> <p>Biomechanics of human movement: Application of biomechanical principles for analyzing and interpreting human body movement. Monitoring and measuring biomechanical parameters during various activities and sports. Utilization of advanced motion analysis methods, such as 3D motion capture and simulation, for studying kinesiological aspects. Data collection and analysis systems: Advanced technologies and methods for data collection in kinesiology, such as electromyography, optical motion capture, and inertial sensors. Statistical methods and tools for analyzing kinesiological data. Integration of different data sources to create a comprehensive picture of kinesiological phenomena. Application of systemic kinesiology in specific areas: Application of systemic kinesiology in areas such as sports performance, rehabilitation, and biomechanics of the workplace. Research applying systemic approaches to studying specific kinesiological phenomena and improving practice. Research methodology in systemic kinesiology: Planning research and designing experimental studies in the context of systemic kinesiology. Methods of data collection, analysis, and interpretation in systemic kinesiology. Critical analysis and evaluation of scientific articles in the field of systemic kinesiology.</p>		



	<p>Application of quantitative and qualitative research methods in studying kinesiological systems.</p> <p>Experimental design, variable control, and result validation in systemic kinesiology.</p> <p>Emerging research directions in systemic kinesiology:</p> <p>Advanced technologies such as virtual reality, artificial intelligence, and nanotechnology in studying kinesiological systems.</p> <p>Multidisciplinary approaches in collaboration with other fields.</p> <p>Application of systemic approaches to addressing complex kinesiological problems and improving practice.</p>																								
Learning outcomes	<p>Knowledge:</p> <p>Understanding the basic principles of systemic kinesiology and applying them to analyze the human body as an integrated system from a scientific perspective. Knowledge of the anatomical structure and physiological characteristics of the human body, including the musculoskeletal system, nervous system, cardiovascular system, and respiratory system. Familiarity with fundamental concepts of biomechanics and their application in studying human movement.</p> <p>Skills:</p> <p>Analyzing and interpreting complex interactions within kinesiological systems using various tools. Applying biomechanical principles to analyze human movement and optimize sports performance. Utilizing advanced scientific methods of motion analysis and modeling to study kinesiological phenomena. Independently collecting, analyzing, and interpreting data in research within the field of systemic kinesiology.</p> <p>Competencies:</p> <p>Critically evaluating and integrating scientific knowledge from the field of systemic kinesiology to address complex kinesiological problems. Applying acquired knowledge and skills in kinesiology practice, including working in research teams and collaborating with other experts. Communicating research findings and scientific knowledge in a clear and professional manner through written works, presentations, and public speaking. Independently planning, conducting, and managing research projects in the field of systemic kinesiology.</p>																								
Teaching methods	<p>Lectures, group discussions, as well as individual and small group exercises. Tasks will involve practicing various techniques of qualitative data collection and analysis individually and/or in teams, followed by presenting the results in class and discussion. Presentations and discussions of synthesized materials and knowledge.</p>																								
Assessment methods with grading structure	<table border="1"> <tr> <td colspan="2">Prerequisite for taking the exam</td> <td>80% class attendance</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b></td> </tr> <tr> <td style="text-align: center;">Criterion</td> <td style="text-align: center;">Points</td> <td style="text-align: center;">Minimum number of points for the condition</td> </tr> <tr> <td>Consultations</td> <td style="text-align: center;">10</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Workshops</td> <td style="text-align: center;">20</td> <td style="text-align: center;">11</td> </tr> <tr> <td>Seminars/Discussions</td> <td style="text-align: center;">30</td> <td style="text-align: center;">16</td> </tr> <tr> <td>Final exam*</td> <td style="text-align: center;">40</td> <td style="text-align: center;">22</td> </tr> <tr> <td>Total</td> <td style="text-align: center;">100</td> <td style="text-align: center;">55</td> </tr> </table> <p>*Test: 5 &lt; 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9= 36-38 points; 10=39- 40 points</p>	Prerequisite for taking the exam		80% class attendance	<b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b>			Criterion	Points	Minimum number of points for the condition	Consultations	10	6	Workshops	20	11	Seminars/Discussions	30	16	Final exam*	40	22	Total	100	55
Prerequisite for taking the exam		80% class attendance																							
<b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b>																									
Criterion	Points	Minimum number of points for the condition																							
Consultations	10	6																							
Workshops	20	11																							
Seminars/Discussions	30	16																							
Final exam*	40	22																							
Total	100	55																							
Literature	<p>Mandatory</p> <p>Hall, S.J., Getchell, n. (2014). Research Methods in Kinesiology and the Health Sciences (first edition). Wolters Kluwer Health.</p> <p>Hoffman, J.S. (ed.). (2009). Introduction to kinesiology (third edition). Champaign, IL: Human Kinetics Publishers, Inc.</p>																								





<p>Klavora, P. (2009). Introduction to kinesiology: a biophysical perspective. Toronto: Sport Books publisher</p> <p>Kowalski KC., McHugh, TL., Sabiston CM., &amp; Ferguson, LJ. (2018). Research Methods in Kinesiology. Oxford University Press</p> <p>Mraković, M. (1994). Uvod u sistematsku kineziologiju. Zagreb: Fakultet za fizičku kulturu</p> <p>Supplementary:</p> <p>Brooks, A. G. (1981). Perspectives on the academic discipline of physical education. Champaign, IL: Human Kinetics Publishers, Inc.</p> <p>Charles, J. (1994). Contemporary Kinesiology. Englewood, Co.: Morton Publishing Company</p>
--



Subject code: DSK103	KINESIOLOGY ANTHROPOLOGY		
Cycle: III	Year: I	Semester: I	Number of ECTS credits: 5
Status: Mandatory	Total number of hours: 125 Lectures: 15 Workshops: 15 Consultations/Seminars/Discussions: 15 Independent work: 80		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment:	Defined by the rules of the III study cycle		
Objective of the course	To provide doctoral students with a scientific understanding of the connection between human anthropology and kinesiology and to apply the scientific methods of anthropology in the study of the human body, movement and physical activity.		
Thematic units	Anthropological approach to studying body and movement: Anthropological concepts of body and movement Sociocultural aspects of embodiment and physical activity Theories and perspectives in the anthropology of the body Biological anthropology in kinesiology: Genetics and physical activity Variability of the human body in the context of kinesiology Anthropometry and physiological parameters in the study of kinesiological phenomena Quantitative methods in kinesiological anthropology: Use of statistical analyses in researching kinesiological phenomena Quantitative measurements of physical activity and movement Application of quantitative methods in studying physical fitness and performance Qualitative methods in the study of embodiment and movement: Ethnographic methods in kinesiological anthropology Qualitative research on the experience of physical activity and sports Interpretive analyses of body, movement, and bodily practices Anthropological archaeology of body and movement: Reconstruction of physical activities through archaeological finds Cultural changes in physical activity throughout history Interpretation of bodily practices in ancient civilizations Cultural anthropology of recreation and leisure: Anthropological approaches to studying recreation and leisure Physical activity as a social phenomenon in different cultures The influence of cultural factors on the choice and shaping of recreational activities Anthropology of adaptive physical activity: Research on physical activity in people with disabilities Sociocultural aspects of adaptive physical activity Inclusion and accessibility in physical activity		



Learning outcomes	<p><b>Knowledge:</b> Understanding the basic theoretical and scientific concepts and principles of kinesiological anthropology, including cultural anthropology, biological anthropology, and social anthropology. Knowledge of the historical development of kinesiological anthropology and its application in researching human physical activity. Understanding contemporary research methods in kinesiological anthropology, including ethnographic research, qualitative and quantitative data collection methods, and statistical analysis.</p> <p><b>Skills:</b> Application of scientific research methods in kinesiological anthropology, including research design, data collection, analysis of results, and interpretation of findings. Critical thinking and analytical skills for evaluating and interpreting kinesiological phenomena from an anthropological perspective. Communication skills for presenting research results and articulating conclusions based on scientific knowledge.</p> <p><b>Competencies:</b> Ability to apply kinesiological anthropology in analyzing and solving complex kinesiological problems. Recognition and understanding of ethical issues and challenges encountered in kinesiological anthropology research, and application of ethical guidelines in research work. Ability to integrate knowledge from various areas of anthropology and kinesiology to create a comprehensive understanding of the human body, movement, and physical activity in the context of culture and society.</p>																		
Teaching methods	<p>Methods of teaching will include lectures, group discussions, as well as individual and small group exercises. Tasks will involve practicing various techniques of qualitative data collection and analysis individually and/or in teams, followed by presenting the results in class and discussion. They will encompass: observation, semi-structured interviews, informal interviews, collecting visual data, note-taking during focus group discussions, identification, coding, and thematic analysis.</p>																		
Assessment methods with grading structure	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Prerequisite for taking the exam</td> <td style="width: 50%;">80% class attendance</td> </tr> <tr> <td colspan="2" style="text-align: center;"><b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b></td> </tr> <tr> <td></td> <td style="text-align: center;">Minimum number of points for the condition</td> </tr> <tr> <td style="text-align: center;">Criterion</td> <td style="text-align: center;">Points</td> </tr> <tr> <td>Consultations</td> <td style="text-align: center;">10</td> </tr> <tr> <td>Workshops</td> <td style="text-align: center;">20</td> </tr> <tr> <td>Seminars/Discussions</td> <td style="text-align: center;">30</td> </tr> <tr> <td>Final exam*</td> <td style="text-align: center;">40</td> </tr> <tr> <td><b>Total</b></td> <td style="text-align: center;"><b>100</b></td> </tr> </table> <p>*Test: 5 &lt; 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9= 36-38 points; 10=39- 40 points</p>	Prerequisite for taking the exam	80% class attendance	<b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b>			Minimum number of points for the condition	Criterion	Points	Consultations	10	Workshops	20	Seminars/Discussions	30	Final exam*	40	<b>Total</b>	<b>100</b>
Prerequisite for taking the exam	80% class attendance																		
<b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b>																			
	Minimum number of points for the condition																		
Criterion	Points																		
Consultations	10																		
Workshops	20																		
Seminars/Discussions	30																		
Final exam*	40																		
<b>Total</b>	<b>100</b>																		
	<p><b>Mandatory:</b> Malacko, J. i Rađo, I. (2004). Tehnologija sporta i sportskog treninga. Sarajevo: Fakultet sporta i tjelesnog odgoja. Prskalo, I. i Sporiš, G. (2015). Kineziologija. Zagreb: Kineziološki fakultet u</p>																		



Literature	<p>Zagreb, Učiteljski fakultet u Zagrebu i Školska knjiga d.d. Zagreb. Mišigoj, M. (2008). Kinantropologija, Kineziološki fakultet u Zagrebu. Talović, M. i saradnici (2011). Notacijska analiza u nogometu. Fakultet sporta i tjelesnog odgoja. Sarajevo. Supplementary: Skender, N. (2008). Transformacioni procesi antropoloških obilježja. Bihać, Pedagoški fakultet. Skender, N., Pistotnik, B. Čolakhodžić, E. (2010). Osnove kretanja u sportu. Bihać, Pedagoški fakultet.</p>
------------	---



Subject code: DSK104	KINESIOMETRY		
Cycle: III	Year: I	Semester: I	Number of ECTS credits: 5
Status: Mandatory	Total number of hours: 125 Lectures: 15 Workshops: 15 Consultations/Seminars/Discussions: 15 Independent work: 80		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To develop a deep understanding of the theoretical, practical, and scientific aspects of measuring and evaluating kinesiological parameters and applying statistical methods in the analysis of kinesiological data by doctoral students. Furthermore, to cultivate the ability of doctoral students to apply a scientific approach in measurement, data collection, and analysis to draw reliable and relevant conclusions about the phenomena studied in the field of kinesiology.		
Thematic units	Basic scientific concepts and principles of kinesiology: Accuracy, reliability, and validity of measurements in kinesiology Methods of assessing movement and physical activity Instruments and technologies for measuring movement and physiological parameters: Kinesiological systems for motion analysis Sensors for tracking physical activity and physiological parameters Standardized protocols for measurement and evaluation: Protocols for assessing movement and postural control Protocols for assessing physical activity and energy expenditure Protocols for assessing cardiorespiratory function and physiological parameters Data analysis in kinesiology: Statistical methods for processing and interpreting kinesiological data Application of kinesiology in research and practice: Kinesiological research focusing on kinematic and kinetic parameters Kinesiology in sports performance, rehabilitation, and kinesiology program design Advanced methods of kinesiology: Analysis of 3D motion and biomechanics Advanced methods of electromyography analysis Utilization of sensor systems and inertial measurement units Critical evaluation of measurement protocols and techniques: Validation of measurement instruments and protocols Critical analysis of results and their interpretation		
Learning outcomes	Knowledge: Understanding the basic concepts and principles of kinesiology, including accuracy, reliability, and validity of measurements in kinesiology. Familiarity with various methods and technologies for measuring movement, physical activity, and physiological parameters. Adoption of statistical methods and analytical tools for processing and interpreting kinesiological data.		



	<p>Collection and analysis of kinesiological data using standardized protocols.</p> <p>Skills: Application of measurement methods in kinesiology through practical use of instruments and technologies for collecting data on movement, physical activity, and physiological parameters. Critical analysis and interpretation of kinesiological data using statistical methods. Planning research in the field of kinesiometry, including sample selection, defining relevant variables, and selecting measurement protocols. Critical evaluation of existing measurement protocols and techniques in kinesiometry and the ability to adapt and optimize protocols for specific research needs.</p> <p>Competencies: Development and presentation of scientific papers based on the results of kinesiometric research. Critical thinking and evaluation of scientific results and methods of kinesiometry. Teamwork and collaboration with other experts in the field of kinesiometry and kinesiology. Application of scientific research in practice, such as optimizing sports performance, rehabilitation, designing kinesiology programs, and other relevant kinesiological applications.</p>
Teaching methods	Lectures, individual assignments, laboratory exercises, simulations, e-study (with teacher-student cooperation and between students). Lectures, homework, laboratory tutorials, simulations, e-learning
Assessment methods with grading structure	<p>Assessment includes partial exams for individual topics and a final seminar task for elective content. Partial exams can be oral or written. Grading scale: from 1 to 5 for negative grades and from 6 to 10 for positive grades.</p> <p>The final subject grade is composed as the average of all partial exams, with each partial exam requiring a positive grade. The seminar task can be graded only when all partial exams are positive. To receive the final grade, the seminar task must be completed.</p> <p>Students receive points for the subject when the seminar task is graded positively.</p> <p>Assessment methods: Assessment weighting: Active participation in exercises (pass/fail) Active participation in tutorials (passed/failed) Active participation in lectures (passed/failed) Practical exam (5–10) 50.00% Theoretical exam (5–10) 50.00%</p>
Literature	<p>Mandatory:</p> <p>Bala, G. (2003). Metodološki aspekti kinezioloških mjerenja (sa posebnim osvrtom na mjerenja motoričkih sposobnosti). Novi Sad, Samostalno autorsko izdanje.</p> <p>Dizdar, D. Osnove statistike i kineziometrije-priručnik za sportske trenere. Dostupno na:<a href="http://km.com.hr/wpcontent/uploads/2018/04/Osnove-statistike-ikineziometrije.pdf">http://km.com.hr/wpcontent/uploads/2018/04/Osnove-statistike-ikineziometrije.pdf</a> (preuzeto, 04.04.2018).</p> <p>Kazazović, E. (2013). Testiranje, mjerenje i evaluacija u tjelesnom odgoju i sportu. Sarajevo: Fakultet sporta i tjelesnog odgoja Univerziteta u Sarajevu.</p> <p>Kovač, S. i sur. (2013.): Izokinetičko testiranje i trening, FASTO, UNSA, Sarajevo.</p> <p>Mišigoj-Duraković, M. (ur.). Kinantropologija. Kineziološki fakultet, Zagreb, 2008</p> <p>Momirović, K., Wolf, B., Popović, D. (1999). Uvod u teoriju mjerenja: Interne metrijske karakteristike kompozitnih testova. Priština. Fakultet fizičke kulture.</p>



Šoš, H., Rađo, I. (2005) Mjerenje u kineziologiji. Sarajevo, Fakultet fizičke kulture  
8. Viskiđ-Štalec, N. (2010). Statistika i kineziometrija. Kineziološki fakultet, Zagreb.  
Supplementary:  
American College of Sports Medicine. (2017). ACSM's exercise testing and prescription. Lippincott Williams & Wilkins.  
American College of Sports Medicine. (2013). ACSM's guidelines for exercise testing and prescription. Lippincott Williams & Wilkins.  
American College of Sports Medicine. (2012). ACSM's resource manual for guidelines for exercise testing and prescription. Lippincott Williams & Wilkins.  
Comfort, P., Jones, P. A., & McMahon, J. J. (Eds.). (2018). Performance assessment in strength and conditioning. Routledge  
Miller, J., Comfort, P., & McMahon, J. (2023). Laboratory Manual for Strength and Conditioning. Taylor & Francis.  
Mišigoj-Duraković, M i sur. (1995.). Morfološka antropometrija u športu. Fakultet za fizičku kulturu, Zagreb  
Vincent, WJ (2012). Statistika i kineziologija. Champaign (IL): Human Kinetics.  
Bilješke sa predavanja, vježbe i domaći zadaci u elektronskom obliku (online).



Subject code: DSK105	APPLIED STATISTICS IN KINESIOLOGY		
Cycle:III	Year: I	Semester: I	Number of ECTS credits:5
Status: Mandatory	Total number of hours: 125 Lectures: 15 Workshops: 15 Consultations/Seminars/Discussions: 15 Independent work: 80		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To provide doctoral students with a basic understanding of statistical methods and their application in research and data analysis in the field of kinesiology, as well as training them to develop critical thinking, analytical skills and the ability to apply statistical tools in order to be able to conduct scientific research, draw well-founded conclusions and contribute to the progress of the kinesiology discipline.		
Thematic units	Introduction to applied statistics in kinesiology; Importance and role of statistics in kinesiological research; Overview of basic statistical concepts; Data preparation and organization; Qualitative and quantitative data; Data transformation and grouping; Descriptive statistical analysis; Measures of central tendency; Measures of variability and skewness; Graphical representation of statistical values; Testing data normality; Concept of normal distribution; K-S test; Data transformation into standardized z-scores; Bivariate statistical analysis; Pearson's correlation coefficient; Spearman's correlation coefficient; Contingency coefficient; Univariate analysis; t-test; Analysis of variance (f-test); Non-parametric tests (chi-square, Mann-Whitney, Wilcoxon, Kruskal-Wallis, Friedman); Multivariate statistical analysis; Regression analysis; Canonical analysis; Factor analysis; Taxonomic analysis; Discriminant analysis; Analysis of variance; Application of statistical procedures in kinesiological research; Analysis of relationships between different characteristics; Group comparisons; interpretation of results; Evaluation of advantages and limitations of different statistical methods; Software tools for statistical analysis; Introduction to SPSS Application of SPSS in kinesiological research; Writing and presenting statistical results; Citation and referencing rules according to APA standards; Preparation and presentation of statistical results in kinesiological research.		
Learning outcomes	Knowledge: Understanding: Describe basic statistical concepts and their application in kinesiological research. Analyzing: Differentiate among various statistical procedures such as descriptive statistics, bivariate analysis, testing for normality, univariate analysis, and multivariate analysis. Evaluating: Assess the appropriateness of the selected statistical procedure for a given research problem in kinesiology. Skills: Applying: Use appropriate statistical procedures to analyze kinesiological data. Analyzing: Utilize SPSS for conducting statistical analysis. Creating: Prepare clear and critical presentations of statistical analyses, including appropriate diagrams and visualizations.		





	<p>Competencies:</p> <p>Analyzing: Critically evaluate statistical procedures using appropriate criteria.</p> <p>Creating: Prescribe appropriate statistical methods for analyzing different characteristics and group comparisons in kinesiological research.</p> <p>Evaluating: Evaluate the results of kinesiological research in line with the advantages and limitations of selected statistical procedures.</p>																											
Teaching methods	<p>Interactive lectures</p> <p>Workshops and seminars</p> <p>Practical exercises</p> <p>Independent work</p> <p>Online learning and e-materials</p> <p>Group discussions and case studies</p> <p>Mentored research</p> <p>Presentations and defenses of research work</p> <p>Critical analysis of scientific articles</p> <p>Work in small groups</p> <p>Individual consultations with teachers.</p>																											
Assessment methods with grading structure	<table border="1"> <tr> <td colspan="2">Prerequisite for taking the exam</td> <td>80% class attendance</td> </tr> <tr> <td colspan="3" style="text-align: center;">KNOWLEDGE CHECK AND ASSESSMENT</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">Minimum number of points for the condition</td> </tr> <tr> <td>Criterion</td> <td>Points</td> <td></td> </tr> <tr> <td>Consultations</td> <td>10</td> <td>6</td> </tr> <tr> <td>Workshops</td> <td>20</td> <td>11</td> </tr> <tr> <td>Seminars/Discussions</td> <td>30</td> <td>16</td> </tr> <tr> <td>Final exam*</td> <td>40</td> <td>22</td> </tr> <tr> <td>Total</td> <td>100</td> <td>55</td> </tr> </table> <p>*Test: 5 &lt; 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9= 36-38 points; 10=39- 40 points</p>	Prerequisite for taking the exam		80% class attendance	KNOWLEDGE CHECK AND ASSESSMENT					Minimum number of points for the condition	Criterion	Points		Consultations	10	6	Workshops	20	11	Seminars/Discussions	30	16	Final exam*	40	22	Total	100	55
Prerequisite for taking the exam		80% class attendance																										
KNOWLEDGE CHECK AND ASSESSMENT																												
		Minimum number of points for the condition																										
Criterion	Points																											
Consultations	10	6																										
Workshops	20	11																										
Seminars/Discussions	30	16																										
Final exam*	40	22																										
Total	100	55																										
Literature	<p>Mandatory:</p> <p>Bjelica, D. (2020). Metode istraživanja u sportu. Podgorica: Univerzitet Crne Gore.</p> <p>Field, A. (2018). Discovering Statistics Using IBM SPSS Statistics. Los Angeles, CA: Sage.</p> <p>Pallant, J. (2016). SPSS Survival Manual. New York, NY: McGraw-Hill Education.</p> <p>Popović, R. (2015). Kvantitativne metode u kineziologiji. Beograd: Univerzitet u Beogradu.</p> <p>Supplementary:</p> <p>Cohen, J., Cohen, P., West, S. G., &amp; Aiken, L. S. (2013). Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences. New York, NY: Routledge.</p> <p>Furjan-Mandić, G., &amp; Heimer, S. (2010). Biostatistika u kineziologiji. Zagreb: Kineziološki fakultet u Zagrebu.</p> <p>Mikulić, D., &amp; Sorić, M. (2015). Uvod u SPSS: Priručnik za statističku analizu podataka u društvenim i biheioralnim znanostima. Zagreb: Filozofski fakultet u Zagrebu.</p> <p>Tabachnick, B. G., &amp; Fidell, L. S. (2013). Using Multivariate Statistics. Boston, MA: Pearson.</p>																											



Subject code: DSK106	WRITING A SCIENTIFIC ARTICLE IN KINESIOLOGY		
Cycle: III	Year: I	Semester: I	Number of ECTS credits: 5
Status: Mandatory	Total number of hours: 125 Lectures: 15 Workshops: 15 Consultations/Seminars/Discussions: 15 Independent work: 80		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To provide doctoral students with the knowledge, skills, and competencies necessary for successful scientific article writing, enabling them to understand the scientific writing process, master the structure and style of scientific articles in kinesiology, and effectively communicate the results of their research.		
Thematic units	Introduction to scientific writing in kinesiology: The importance of scientific writing and communication of research results. Ethics of scientific writing and plagiarism. Overview of relevant scientific journals and publications in the field of kinesiology. Structure of a scientific article in kinesiology: Title, abstract, and keywords. Introduction: research question, research purpose, hypotheses. Methods: research design, sample, instruments, data collection procedures. Results: data analysis, statistical methods, presentation of results. Discussion: interpretation of results, comparison with previous research, implications of results. Conclusion: summary of key findings, practical applications, further research proposals. Writing clear and effective text: How to structure paragraphs and sentences for readability. Using clear and precise language. Connecting ideas and establishing logical flow of text. Citing sources and managing literature: How to properly cite sources in the text and compile a list of references. Using referencing styles in kinesiology. Using reference management tools. Review and editing of scientific article: Feedback process and article corrections. How to respond to reviews and apply criticism. Review of spelling, grammar, and stylistic aspects. Presentation of research results: Preparing posters for different scientific conferences. Oral presentations of research results. Communication with the audience and responding to questions.		



Learning outcomes	<p><b>Knowledge:</b> Understanding the basic principles of scientific writing in the field of kinesiology. Familiarity with the structure and components of a scientific article, including title, abstract, introduction, methods, results, discussion, and conclusion. Awareness of the ethical aspects of scientific writing, including source citation, plagiarism, and copyright. Understanding of standards and guidelines for submission and publication of scientific articles in kinesiology journals. Gathering and critically evaluating relevant scientific literature in the field of kinesiology.</p> <p><b>Skills:</b> Skill in clear and structured writing of scientific articles in the field of kinesiology. Ability to collect, organize, and analyze data and apply them in writing scientific articles. Development of critical thinking skills, evaluation, and synthesis of scientific information. Skill in applying feedback and criticism to improve one's own writing. Communication skills for presenting research results in the form of posters or oral presentations at various scientific conferences.</p> <p><b>Competencies:</b> Ability to independently conduct research, prepare, and write quality scientific articles in the field of kinesiology. Developing the ability to critically analyze scientific literature and identify relevant sources for one's own work. Understanding the importance of continuous education and professional development in the field of kinesiology. Ability to participate in academic discussions, argue, and present one's own scientific conclusions. Developing awareness of the ethical and moral aspects of scientific research and writing.</p>																											
Teaching methods	<p>The teaching is conducted through lectures and course work, which involves the completion of seminar and project tasks and/or scientific papers. Lectures are delivered through oral presentations with slides and practical examples. Doctoral students will be required to prepare and present seminar and project tasks and/or scientific papers. Various teaching methods are employed, including oral presentations and discussions, demonstrations of examples, graphical and video presentations, and emphasis on group work using appropriate methodological approaches.</p>																											
Assessment methods with grading structure	<table border="1"> <tr> <td colspan="2">Prerequisite for taking the exam</td> <td>80% class attendance</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b></td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">Minimum number of points for the condition</td> </tr> <tr> <td style="text-align: center;">Criterion</td> <td style="text-align: center;">Points</td> <td></td> </tr> <tr> <td>Consultations</td> <td style="text-align: center;">10</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Workshops</td> <td style="text-align: center;">20</td> <td style="text-align: center;">11</td> </tr> <tr> <td>Seminars/Discussions</td> <td style="text-align: center;">30</td> <td style="text-align: center;">16</td> </tr> <tr> <td>Final exam*</td> <td style="text-align: center;">40</td> <td style="text-align: center;">22</td> </tr> <tr> <td>Total</td> <td style="text-align: center;">100</td> <td style="text-align: center;">55</td> </tr> </table> <p>*Test: 5 &lt; 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9=</p>	Prerequisite for taking the exam		80% class attendance	<b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b>					Minimum number of points for the condition	Criterion	Points		Consultations	10	6	Workshops	20	11	Seminars/Discussions	30	16	Final exam*	40	22	Total	100	55
Prerequisite for taking the exam		80% class attendance																										
<b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b>																												
		Minimum number of points for the condition																										
Criterion	Points																											
Consultations	10	6																										
Workshops	20	11																										
Seminars/Discussions	30	16																										
Final exam*	40	22																										
Total	100	55																										



	36-38 points; 10=39- 40 points
Literature	<p>Mandatory:</p> <p>Abazović, E., Paravlić, A., Zubac, D., Kovačević, E., &amp; Šimunić, B. (2022). Decomposition of tensiomyogram and comparison with torque twitch responses after post-activation potentiation. <i>Journal of Musculoskeletal &amp; Neuronal Interactions</i> 22 (3), 316</p> <p>Abazović, E., Kovačević, E., Kovač, S., &amp; Bradić, J. (2015). The effect of training of the non-dominant knee muscles on ipsi-and contralateral strength gains. <i>Isokinetics and Exercise Science</i> 23 (3), 177-182.</p> <p>Čaušević, D., Rani, B., Gasibat, Q., Čović, N., Alexe, C.I., Pavel, S.I., Burchel, L.O., &amp; Alexe, D.I. (2023). Maturity-Related Variations in Morphology, Body Composition, and Somatotype Features among Young Male Football Players. <i>Children</i>, 10, 721. <a href="https://doi.org/10.3390/children10040721">https://doi.org/10.3390/children10040721</a></p> <p>Čolakhodžić, E., (2021). Metodologija i tehnologija naučnoistraživačkog rada. Nastavnički fakultet Univerzitet "Džemal Bijedić" u Mostaru.</p> <p>Čović, N., Jelašković, E., Alić, H., Kafedžić, E., Sporiš, G., Rađo, I., T McMaster, T.D., &amp; Milanović, Z. (2016). Reliability, validity and usefulness of 30-15 Intermittent Fitness Test in Female Soccer Players. <i>Frontiers in Physiology</i> 7, 1-7</p> <p>Freeman, V.J., Walters, J.S., &amp; Campbell, J.M. (2008). How to display data? Blackwell Publishing.</p> <p>Gasibat, Q., Rani, B., Čaušević, D., Perveen, W., Ioana, A.C., Albina, A.E., Alexe, D.J. (2023). A Comparative Electromyographic Analysis of Flying Squirrel and 3-Point Quadripod Exercise for Lumbar Multifidus Muscle Activations among Healthy Females Subjects. <i>Health care</i>, 11(6), 833; <a href="https://doi.org/10.3390/healthcare11060833">https://doi.org/10.3390/healthcare11060833</a></p> <p>Kajmovic, H., Karpljuk, D., Kapo, S., &amp; Šimenko, J. (2022). Comparison of Individual Penalties According to Gender and Weight Categories of Elite Judo Athletes from four World Championships. <i>Biology</i> 11 (9), 1284</p> <p>Kajmovic, H., &amp; Radjo, I.(2014). A comparison of gripping Configuration and throwing techniques efficiency index in Judo between male and female judoka during Bosnia and Herzegovina Senior State Championships. <i>International Journal of Performance Analysis in Sport</i> 14 (2), 620-634</p> <p>Kajmovic, H., Rađo, I., Mekic, A., Crnogorac, B., &amp; Colakhodzic, E. (2014). Differences in gripping configurations during the execution of throwing techniques between male and female cadets at the European Judo Championship. <i>Archives of Budo</i></p> <p>Kajmovic, H., Kapur, A., Radjo, I., &amp; Mekic, A. (2014). Differences in performance between winners and defeated wrestlers in the European Championships for cadets. <i>International Journal of Performance Analysis in Sport</i> 14 (1), 252-261</p> <p>Milanović, Z., Pantelić, S., Čović, N., Sporiš, G., &amp; Krusturup, P. (2015). Is Recreational Soccer Effective for Improving Vo2 max? A Systematic Review and Meta-Analysis. <i>Sports Medicine</i>, 1-15</p> <p>Milanović, Z., Pantelić, S., Čović, N., Sporiš, G., Mohr, M., &amp; Krusturup, P. (2019). Broad-spectrum physical fitness benefits of recreational football: a systematic review and meta-analysis. <i>British journal of sports medicine</i> 53 (15), 926-939</p> <p>Drid, P., Casals, C., Mekic, A., Radjo, I., Stojanovic, M., &amp; Ostojic, S.M. (2015). Fitness and anthropometric profiles of international vs. national judo medalists in half-heavyweight category. <i>The Journal of Strength &amp; Conditioning Research</i> 29 (8), 2115-2121</p>



Sattler, T., Sekulic, D., Esco, MR., & Mahmutovic, I. (2015). Analysis of the association between isokinetic knee strength with offensive and defensive jumping capacity in high-level female volleyball athletes. *Journal of Science and Medicine in Sport* 18(5). 2015 Sep;18(5):613-8. doi: 10.1016/j.jsams.2014.08.002

Schimel, J. (2012). *Writing Science: How to write papers that get cited and proposals that get funded*. New York, New York: Oxford University Press

George, M.H. (2009). *How to write paper?* Blackwell Publishing.

Stankov, U., Filimonau, V., Vujičić, MD., Basarin, B., Carmer, AB., Lazić, L., Hansen, BK., Ćirić Lalić, D., & Mujkić, D. (2023). Ready for Action! Destination Climate Change Communication: An Archetypal Branding Approach. *International Journal of Environmental Research and Public Health*. 20(5):3874.

Stojsavljevic, R., Vujičić, M.D., Stankov, U., Stamenkovic, I., Masliković, D., Carmer, A.B., Polić, D., Mujkić, D., & Bajić, M. (2023). In Search For Meaning? Modelling Generation Z Spiritual Travel Motivation Scale. *Sustainability*, 15 (6), 5292

Uyar, Y., Gentile, A., Uyar, H., Erdeveciler, Ö., Sunay, H., Mîndrescu, V., & Mujkic, D. (2022). Competition, Gender Equality, and Doping in Sports in the Red Queen Effect Perspective. *Sustainability*. 14 (5):2490

Supplementary:  
[www.scopus.com/search/form.uri?display=basic#basic](http://www.scopus.com/search/form.uri?display=basic#basic)  
[www.webofscience.com/wos/woscc/basic-search](http://www.webofscience.com/wos/woscc/basic-search)



Optional subjects

Subject code: DSK201	KINESIOLOGY AND ANTHROPOLOGY ANALYSIS IN TEAM SPORTS		
Cycle: III	Year: I	Semester: II	Number of ECTS credits: 10
Status: Optional	Total number of hours: 250 Lectures: 30 Workshops: 30 Consultations/Seminars/Discussions: 30 Independent work: 160		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To provide doctoral students with a scientific understanding and application of kinesiology and anthropological methods and techniques in the context of team sports, and the development of scientific thinking and research skills necessary for the analysis and interpretation of complex kinesiology and anthropological aspects of team sports.		
Thematic units	<p>Physiological analysis in team sports: Studying the physiological characteristics and adaptations of participants in team sports, such as aerobic and anaerobic capacities.</p> <p>Biomechanical analysis in team sports: Examining movements, techniques, forces, and loads in team sports.</p> <p>Anthropological analysis in team sports: Assessing the impact of anthropometric characteristics (height, weight, body proportions) on athletic performance, specific roles, and positions in team sports.</p> <p>Studying cognitive and emotional aspects of athletic performance, motivation, concentration, communication, team identity and dynamics, as well as mental preparation strategies and stress management.</p> <p>Analysis of tactics and strategies in team sports: Investigating tactical aspects of team sports, including game models, formations, player interactions, decision-making, and communication.</p> <p>Technology and analysis in team sports: Implementing advanced technologies, such as GPS devices, inertial sensors, video analysis, and other methods for tracking and analyzing performance in team sports.</p> <p>Analysis of recovery and injury prevention in team sports: Understanding the recovery process, planning recovery programs, injury prevention, and rehabilitation in team sports.</p> <p>Nutrition and supplementation in team sports: The role of nutrition, hydration, nutritional support, and supplementation in optimizing performance, recovery, and player health in team sports.</p> <p>Data analysis and statistical methods in team sports: Using statistical methods, data analysis, and modeling for quantitatively understanding performance, tactics, strategies, trends, and patterns in team sports.</p> <p>Discussion of ethical guidelines, professional responsibility, integrity, and data protection in research and analysis.</p> <p>Data analysis and statistical methods in team sports: Using statistical methods, data analysis, and modeling for quantitatively understanding performance, tactics, strategies, trends, and patterns in team sports.</p>		



	Discussion of ethical guidelines, professional responsibility, integrity, and data protection in research and analysis.
Learning outcomes	<p>Skills:</p> <p>Ability to critically analyze data, information, and performances in team sports and formulate relevant conclusions.</p> <p>Application of biomechanical principles and methods for analyzing movement and techniques in team sports.</p> <p>Ability to independently conduct research, collect data, apply statistical methods, and interpret results in the context of team sports.</p> <p>Clear expression of ideas, analysis results, and recommendations, as well as successful communication.</p> <p>Knowledge:</p> <p>Understanding of fundamental kinesiological principles, theories, and concepts relevant to the analysis and understanding of performance in team sports.</p> <p>Knowledge of anthropological aspects such as anthropometry, physiology, biomechanics, and psychology in the context of team sports.</p> <p>Familiarity with research methods, statistical techniques, technology, and instrumental tools for data collection, analysis, and interpretation in the analysis of team sports.</p> <p>Competencies:</p> <p>Ability to systematically analyze sports performance, identify key success factors, and identify areas for improvement in team sports.</p> <p>Planning and organizing training, applying specific training methods, and individualizing training for players and teams in team sports.</p> <p>Proficiency in using advanced technology, software, and equipment for performance monitoring, data analysis, and visualization of results in team sports.</p> <p>Ability to independently conduct research, analyze data, interpret results, and communicate research findings.</p>
Teaching methods	Lectures, discussions and seminars, field work, research projects, online lectures and monitoring of seminars
Assessment methods with grading structure	<p>Consultations - 10</p> <p>Workshops - 20</p> <p>Seminar and workshops - 40</p> <p>Final exam - 30</p>
Literature	<p>Mandatory:</p> <p>Čoh, M. (2010). Sportska antropologija. Beograd: Sportska akademija.</p> <p>Filipović, B. (2015). Metodologija kinezioloških istraživanja. Beograd: Fakultet sporta i fizičkog vaspitanja.</p> <p>Grgantov, Z. (2013). Kineziološka analiza u timskim sportovima. Zagreb: Kineziološki fakultet Sveučilišta u Zagrebu.</p> <p>Marković, G. (2012). Biomehanika u timskim sportovima. Beograd: Fakultet sporta i fizičkog vaspitanja.</p> <p>Savić, I. (2018). Antropološka analiza timskih sportova. Beograd: Fakultet sporta i fizičkog vaspitanja.</p> <p>Šibila, M. (2016). Psihološki aspekti timskih sportova. Zagreb: Kineziološki fakultet Sveučilišta u Zagrebu.</p> <p>Supplementary:</p> <p>Duffield, R., Dawson, B., Pinnington, H., &amp; Wong, P. (2003). Accuracy and reliability of GPS devices for measurement of sports-specific movement patterns</p>



related to cricket, tennis, and field-based team sports. *Journal of Science and Medicine in Sport*, 6(3), 345-357.

Forteza de la Rosa, A., & García-López, L. M. (2013). Heart rate monitoring in basketball: Applications, challenges and future directions. *Journal of Sports Sciences*, 31(6), 547-557.

Forteza de la Rubia, A., Lorenzo-Calvo, J., & Lorenzo, A. (2020). Does the relative age effect influence short-term performance and sport career in team sports? A qualitative systematic review. *Frontiers in Psychology*, 11, 1947.

Garganta, J. (2009). Trends of tactical performance analysis in team sports: bridging the gap between research, training and competition. *Revista Portuguesa de Ciências do desporto*, 9(1).

Hughes, M., & Bartlett, R. (2008). The use of performance indicators in performance analysis. *Journal of Sports Sciences*, 26(8), 933-954.

Hughes, M., & Bartlett, R. (2008). The use of performance indicators in performance analysis. *Journal of Sports Sciences*, 26(8), 933-954.

Mallo, J., Mena, E., Nevado, F., Paredes, V., & Ortega, E. (2015). Influence of positioning on the accuracy of decision-making of association football elite referees during competitive matches. *Journal of Sports Sciences*, 33(9), 960-968.

O'Donoghue, P. (2014). *An introduction to performance analysis of sport*. Routledge.

O'Donoghue, P. (2009). *Research methods for sports performance analysis*. Routledge.

Oliver, D. (2004). *Basketball on paper: rules and tools for performance analysis*. Potomac Books, Inc.

Passos, P., Araújo, D., & Volossovitch, A. (2016). *Performance analysis in team sports*. Taylor & Francis.

Potteiger, J. (2021). *ACSM's Introduction to exercise science*. Lippincott Williams & Wilkins.

Scanlan, A. T., Tucker, P. S., & Dalbo, V. J. (2014). Training dose, not age, determines level of aerobic fitness in elite soccer players. *Journal of Sports Sciences*, 32(20), 1954-1960.





Subject code: DSK202	KINESIOLOGY AND ANTHROPOLOGY ANALYSIS IN WINTER SPORTS		
Cycle: III	Year: I	Semester: II	Number of ECTS credits: 10
Status: Optional	Total number of hours: 250 Lectures: 30 Workshops: 30 Consultations/Seminars/Discussions: 30 Independent work: 160		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To provide doctoral students with scientific knowledge and skills in the field of kinesiology and anthropology applied to winter sports, focusing on the analysis and research of specific aspects of winter sports, as well as understanding the impact of physical, biomechanical, physiological, and psychological factors on athletic performance in winter sports.		
Thematic units	<p>Foundations of Winter Sports: Overview of various winter sports, their characteristics, and specifics. Analysis of biomechanical and physiological demands in individual winter sports.</p> <p>Anthropological Aspects of Winter Sports: The impact of anthropological factors (body build, morphological characteristics, motor abilities) on athletic performance in winter sports. Anthropological analysis of elite athletes in winter sports.</p> <p>Biomechanics of Winter Sports: Application of biomechanical principles and methods for analyzing techniques and movements in winter sports. Analysis of strength, flexibility, balance, and coordination in the context of winter sports.</p> <p>Physiological Aspects of Winter Sports: The influence of aerobic and anaerobic energy systems, cardiovascular system, pulmonary function, and metabolic processes on athletic performance in winter sports. Physiological analysis of training and recovery in winter sports.</p> <p>Research Methodology in Kinesiology of Winter Sports: Data collection methods, instruments, and techniques for analyzing performance, biomechanics, and physiology in winter sports. Planning research projects and analysis of results.</p> <p>Psychological Aspects of Winter Sports: The influence of psychological factors (motivation, concentration, self-confidence, team dynamics) on athletic performance in winter sports. Psychological preparation of athletes for competitions in winter sports.</p> <p>Research Methodology in Kinesiology of Winter Sports: Data collection methods, instruments, and research techniques applied in kinesiology of winter sports. Statistical data analysis, interpretation of results, and presentation of research findings. Application of research methodology in analyzing winter sports and creating a scientific basis for progress in this field.</p> <p>Nutrition and Winter Sports: The impact of diet, hydration, and supplementation on athletic performance and recovery in winter sports. Nutritional analysis of athletes' diets in winter sports.</p> <p>Analysis of Sports Equipment:</p>		



	<p>The influence of sports equipment (skis, snowboards, ice skates, clothing, etc.) on performance and safety of athletes in winter sports. Technological advancements and innovations in winter sports equipment.</p> <p>Injury Analysis and Prevention in Winter Sports: Epidemiology and causes of injuries in winter sports. Methods of prevention, rehabilitation, and optimization of injury recovery in winter sports.</p> <p>Interdisciplinary Approach in Winter Sports: Collaboration with other professionals (coaches, physiotherapists, psychologists, etc.) in the analysis and optimization of athletic performance in winter sports.</p>																											
Learning outcomes	<p>Knowledge: Understanding the theoretical foundations of kinesiology and anthropology applied to winter sports. Knowledge of anatomical, physiological, biomechanical, and psychological factors influencing athletic performance in winter sports. Familiarity with research methodology in the field of kinesiology and anthropology of winter sports. Awareness of current scientific literature and research related to kinesiology and anthropology in winter sports.</p> <p>Skills: Application of kinesiological and anthropological methods for analyzing performance, biomechanics, and physiological parameters in winter sports. Utilization of advanced measurement instruments and techniques for data collection in winter sports research. Analysis and interpretation of collected data and critical evaluation of research results.</p> <p>Competencies: Development of research proficiency and critical thinking in the field of kinesiology and anthropology of winter sports. Integration of theoretical and practical knowledge to optimize physical preparation, training, and athletic performance in winter sports. Teamwork and collaboration with colleagues in research and analysis of winter sports. Development of communication skills for presenting research results and professional communication in the scientific community.</p>																											
Teaching methods	Teaching methods are lectures, group discussions, individual and small group exercises.																											
Assessment methods with grading structure	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: left;">Prerequisite for taking the exam</td> <td style="text-align: right;">80% class attendance</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b></td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">Minimum number of points for the condition</td> </tr> <tr> <td style="text-align: center;">Criterion</td> <td style="text-align: center;">Points</td> <td style="text-align: center;">condition</td> </tr> <tr> <td>Consultations</td> <td style="text-align: center;">10</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Workshops</td> <td style="text-align: center;">20</td> <td style="text-align: center;">11</td> </tr> <tr> <td>Seminars/Discussions</td> <td style="text-align: center;">30</td> <td style="text-align: center;">16</td> </tr> <tr> <td>Final exam*</td> <td style="text-align: center;">40</td> <td style="text-align: center;">22</td> </tr> <tr> <td><b>Total</b></td> <td style="text-align: center;"><b>100</b></td> <td style="text-align: center;"><b>55</b></td> </tr> </table>	Prerequisite for taking the exam		80% class attendance	<b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b>					Minimum number of points for the condition	Criterion	Points	condition	Consultations	10	6	Workshops	20	11	Seminars/Discussions	30	16	Final exam*	40	22	<b>Total</b>	<b>100</b>	<b>55</b>
Prerequisite for taking the exam		80% class attendance																										
<b>ASSESSMENT OF KNOWLEDGE AND EVALUATION</b>																												
		Minimum number of points for the condition																										
Criterion	Points	condition																										
Consultations	10	6																										
Workshops	20	11																										
Seminars/Discussions	30	16																										
Final exam*	40	22																										
<b>Total</b>	<b>100</b>	<b>55</b>																										



	<p>*Test: 5 &lt; 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9= 36-38 points; 10=39- 40 points</p>
Literature	<p>Mandatory: Andrijašević, M. (2010). Kineziološka rekreacija. ZAGREB: Kineziološki fakultet sveučilišta u Zagrebu. Baca, A., &amp; Kornfeind, P. (2019). Alpine Skiing: Trajectory to the Gold. Routledge. Findak, V. (1999). Planiranje, programiranje, provođenje i kontrola procesa vježbanja. Zbornik radova, 2. međunarodne znanstvene konferencije, Kineziologija za 21. stoljeće, Dubrovnik, 109-113. Hjelseth, A. B., Sandbakk, Ø., &amp; Welde, B. (2018). Skiing in the Winter Landscape: An Ecological Approach. Routledge. Macdermid, P. W. (2018). Snow Sports Trauma and Safety: Conference Proceedings of the International Society for Skiing Safety. Springer. Mujanovic, E., Nurkovic, N., Krsmanovic, R. (2010). Utvrđivanje stepena uticaja varijabli motorickih sposobnosti na uspjeh u izvođenju skijaškog elementa osnovni zavoj SPORT MOND, CRNOGORSKA SPORTSKA AKADEMIJA, Podgorica. Müller, E., Lindinger, S., &amp; Stöggli, T. (2016). Science and Skiing VI. Meyer &amp; Meyer Sport. Nurković, N. (2003). Skijanje-biomehantički principi. Sarajevo: Fakultet za fizičku kulturu u Sarajevu. Nurkovic, N., Kovac, S., &amp; Idrizovic, A. (2011). The efficacy of classic and direct methodical practice partial differences analysis in alpine sking learning, Homo sporticus, Fakultet sporta i tjelesnog odgoja Sarajevo. Reid, R., Quinn, A., &amp; Crespo, M. (2015). Biomechanics in Applications. CRC Press. Supplementary: Cigrovski, V., Matković, B., Krističević, T. (2006). Antropološke karakteristike kao osnova za selekciju u alpskom skijanju. HŠMV, 21(2):103-107. Index: CAB Abstracts, GLOBAL HEALTH. Kovač, S., Rađo, I., Nurkovic, N., &amp; Bradic, A. (2008). Unapređenje sporta u BIH kroz primjenu suvremenih dijagnostičkih postupaka, II kongres BIH knjiga sažetaka. Sarajevo. Matković, B., Ferenčak, S. (1996). Skijajte s nama. Zagreb, Ferbos. Nurković, N. (2011). Skijanje. Fakultet sporta i tjelesnog odgoja, Univerziteta u Sarajevu, Sarajevo.</p>



Subject code: DSK203	KINESIOLOGY AND ANTHROPOLOGY ANALYSIS IN EDUCATION		
Cycle: III	Year: I	Semester: II	Number of ECTS credits: 10
Status: Optional	Total number of hours: 250 Lectures: 30 Workshops: 30 Consultations/Seminars/Discussions: 30 Independent work: 160		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To provide doctoral students with the scientific knowledge, skills and competencies necessary for scientific analysis and research related to kinesiology and anthropological aspects of education, and understanding the interaction between kinesiology, anthropology and education, and to apply the acquired scientific knowledge in practice.		
Teaching units	Theoretical foundations of kinesiology and anthropology in the context of education: Concepts and theories of kinesiology and anthropology relevant to education. The relationship between physical activity, motor development, and cognitive processes. The impact of physical activity on the overall development of children and youth. Methods and instruments for kinesiological and anthropological analysis in education: Various research methods and techniques applied in kinesiological and anthropological analysis in the context of education. Quantitative and qualitative research in the field of kinesiology and anthropology. Development and validation of measurement instruments for assessing physical activity, motor skills, and other relevant variables in education. Analysis of motor skills in education: Assessment and interpretation of motor skills in children and youth in the context of education. Motor testing and norms in educational settings. The impact of motor skills on school achievement and academic success. Kinesiological analysis of sports activities in education: Analysis of sports activities and their effects on the development of children and youth. Identification of key factors influencing the success of sports activities in an educational context. Adaptation and optimization of sports programs for children and youth in line with educational goals. Anthropological analysis of cultural aspects of physical activity in education: The influence of culture, society, and environment on physical activity and motor development. Sociocultural factors shaping attitudes and behaviors towards physical activity in an educational context. Cultural differences in approaching education through physical activity and sports activities. Evaluation of programs and interventions in kinesiology and anthropology of education:		



	<p>Evaluation of the effectiveness of kinesiological and anthropological interventions in an educational environment.</p> <p>Methods of evaluating programs and interventions aimed at improving physical activity and motor skills in an educational context.</p> <p>Monitoring and assessment of the effects of implemented programs and interventions on the development of children and youth.</p> <p>Analysis of evaluation results and drawing conclusions for further improvement of practice.</p> <p>Interdisciplinary approaches in kinesiological and anthropological analysis in education:</p> <p>Integration of knowledge and approaches from the fields of kinesiology, anthropology, pedagogy, psychology, and other relevant disciplines in the analysis of educational aspects of physical activity.</p> <p>Collaboration with various experts to enhance programs and approaches in education through physical activity.</p> <p>Research ethics and professional practices in kinesiological and anthropological analysis in education:</p> <p>Ethical principles and norms in research involving children and youth in an educational context.</p> <p>Responsibility and integrity in data collection, analysis, and interpretation, as well as the dissemination of research results.</p> <p>Application of ethical guidelines in the practice of kinesiological and anthropological analysis in education.</p>
<p>Learning outcomes</p>	<p>Knowledge:</p> <p>Understanding the theoretical foundations of kinesiology, anthropology, and education and their interconnections.</p> <p>Familiarity with various methodological approaches and research techniques in kinesiological and anthropological analysis in education.</p> <p>Knowledge of relevant literature and research papers in the field of kinesiological and anthropological analysis in education.</p> <p>Skills:</p> <p>Application of scientific methods and research techniques in analyzing kinesiological and anthropological aspects of education.</p> <p>Analyzing relevant literature, identifying key themes, and synthesizing findings from the fields of kinesiology, anthropology, and education.</p> <p>Critical thinking and evaluation of research findings and results in the context of kinesiological and anthropological analysis in education.</p> <p>Skill in interpreting and presenting research findings, as well as articulating conclusions based on collected data.</p> <p>Independent planning, implementation, and evaluation of research in the field of kinesiological and anthropological analysis in education.</p> <p>Competencies:</p> <p>Developing critical thinking skills and applying scientific methods to solve complex problems in the field of kinesiological and anthropological analysis in education.</p> <p>Communication and dissemination of knowledge about kinesiological and anthropological analysis in education to professional and scientific communities as well as the broader public.</p> <p>Collaboration and teamwork in a research context and the ability to integrate multidisciplinary approaches in analyzing kinesiological and anthropological aspects of education.</p>



	Ethical behavior and adherence to research norms and standards in working with data.																								
Teaching methods	<p>Working in small groups by encouraging students to express their views and opinions on a specific topic, exchange ideas, and engage in discussions.</p> <p>Case analysis related to the application of kinesiology and anthropology in practice in the teaching process.</p> <p>Seminar work: Requires a deep understanding of the application of kinesiology and anthropology theory in the educational process. Students could hold seminars on various topics and deliver lectures to other students.</p> <p>Practical work method applying kinesiology and anthropology. Student participation in exercises and study of physiological and biomechanical processes in the body.</p> <p>Practical work method in kinesiological and anthropological activities in nature (outdoors) such as hiking, kayaking, etc.</p> <p>Online teaching method through discussion on topics in the educational process, exchange of ideas and opinions, and studying literature and online sources.</p> <p>Student work through project-based learning in the field of kinesiology education and application of knowledge and skills to solve real-world problems.</p> <p>Teamwork method in problem-solving in the field of kinesiology education to encourage student collaboration and knowledge exchange.</p> <p>Participation in discussions on specific topics develops critical thinking through expressing opinions and arguments.</p> <p>Student participation in simulation method and application of kinesiology and anthropology in educational practice.</p> <p>Socially engaged learning method could be useful for topics related to the application of kinesiology and anthropology in the educational process in society through participation in socially engaged projects and solving real community problems.</p>																								
Assessment methods with grading structure	<table border="1"> <tr> <td colspan="2">Prerequisite for taking the exam</td> <td>80% class attendance</td> </tr> <tr> <td colspan="3" style="text-align: center;">ASSESSMENT OF KNOWLEDGE AND EVALUATION</td> </tr> <tr> <td>Criterion</td> <td>Points</td> <td>Minimum number of points for the condition</td> </tr> <tr> <td>Consultations</td> <td>10</td> <td>6</td> </tr> <tr> <td>Workshops</td> <td>20</td> <td>11</td> </tr> <tr> <td>Seminars/Discussions</td> <td>30</td> <td>16</td> </tr> <tr> <td>Final exam*</td> <td>40</td> <td>22</td> </tr> <tr> <td>Total</td> <td>100</td> <td>55</td> </tr> </table> <p>*Test: 5 &lt; 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9= 36-38 points; 10=39- 40 points</p>	Prerequisite for taking the exam		80% class attendance	ASSESSMENT OF KNOWLEDGE AND EVALUATION			Criterion	Points	Minimum number of points for the condition	Consultations	10	6	Workshops	20	11	Seminars/Discussions	30	16	Final exam*	40	22	Total	100	55
Prerequisite for taking the exam		80% class attendance																							
ASSESSMENT OF KNOWLEDGE AND EVALUATION																									
Criterion	Points	Minimum number of points for the condition																							
Consultations	10	6																							
Workshops	20	11																							
Seminars/Discussions	30	16																							
Final exam*	40	22																							
Total	100	55																							
Literature	<p>Mandatory:</p> <p>Jurakić, D., Pedišić, Ž., &amp; Greblo, Z. (2010). Physical activity in different domains and health-related quality of life: a population-based study. <i>Quality of life research</i>, 19(9): 1303-1309.</p> <p>Mišigoj-Duraković, M. (1999), <i>Tjelesno vježbanje i zdravlje</i>, Zagreb. Kineziološki fakultet.</p> <p>Milanović, D., Šalaj, S., i Gregov, C. (2012). Opća kondicijska priprema u funkciji zaštite zdravlja sportaša. <i>Arhiv za higijenu rada i toksikologiju</i>, 63, Suppl. 3, 103-119.</p> <p>Nikšić, E., Beganović, E., Rašidagić, F., Mirvić, E.; &amp; Joksimović, M. (2019) <u>The Effects of Physical Education on Changes of Basic Motor Skills of Female Students in the Fifth Grade of Elementary School</u>. <i>Journal Medical-biological Problems of Physical Training and Sports</i>, 23 (6): 296-305.</p>																								



	<p>Nikšić, E., Mahmutović, I., i Rašidagić, F. (2015). <u>Držanje tijela kod učenika razredne nastave urbanih i ruralnih područja.</u>“ Zbornik radiva sa VI međunarodne naučno-stručne konferencije,“Unapređenje kvalitete života djece i mladih”, 47-60</p> <p>Nikšić, E., Rašidagić, F., Beganović, E. &amp; Németh, Z. (2019). <u>Examination of the Differences in the Representation of Deformities of Individual Body Parts in Initial and Final Measuring.</u> Sport Science, 12 Suppl. 1, Pg: 36-45.</p> <p>Rašidagić, F. (2014). <u>Objectivity in the Evaluation of Motor Skill Performance in Sport and Physical Education.</u> Homosporticus, Faculty of Sport and Physical Education 1/14, Pg: 10 – 16.</p> <p>Rašidagić, F. (2023). Metodika i pedagoška praksa nastave tjelesnog i zdravstvenog odgoja. Fakultet sporta i tjelesnog odgoja Univerziteta u Sarajevu.</p> <p>Rašidagić, F., Manić, G., &amp; Mahmutović, I. (2016.), Metodika nastave Tjelesnog odgoja i sporta, Univerzitet u Sarajevu.</p> <p>Rašidagić, F., Nurković, N., Hadžibulić-Nurković, H., Nikšić, E., &amp; Kapo, A. (2020) Differences Between Morphological Characteristics and Motoric Capabilities of Physically Active and Inactive Female Students. Journal Pedagogy of Physical Culture and sports, 24 (1): 30-35</p>
--	--



Subject code: DSK204	KINESIOLOGY AND ANTHROPOLOGY ANALYSIS IN COMBAT SPORTS		
Cycle: III	Year: I	Semester: II	Number of ECTS credits: 10
Status: Optional	Total number of hours: 250 Lectures: 30 Workshops: 30 Consultations/Seminars/Discussions: 30 Independent work: 160		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To provide doctoral students with basic scientific knowledge, skills and competences for the realization of scientific research and analysis of martial sports from a kinesiology and anthropological aspect, and the acquisition of an advanced understanding of martial sports and the application of scientific methods and theories in order to contribute to the development of the kinesiology discipline.		
Thematic units	<p>FUNDAMENTALS OF KINESIOLOGY IN COMBAT SPORTS:  Overview of kinesiology and its application in martial arts  Anatomy and biomechanics relevant to martial arts  Physiology and energetics in martial arts  Motor learning and movement control in martial arts</p> <p>ANTHROPOLOGICAL ASPECTS IN COMBAT SPORTS:  Anthropometric analysis of fighters in martial arts  Anthropological profile of successful fighters  Psychological profile of fighters and factors influencing success  Sociocultural aspects of martial arts</p> <p>RESEARCH METHODOLOGY IN KINESIOLOGICAL AND ANTHROPOLOGICAL ANALYSIS OF COMBAT SPORTS:  Research planning and experimental design  Instruments, data collection techniques, and analysis in martial arts  Interpretation of research results</p> <p>ADVANCED ANALYSIS TECHNIQUES IN COMBAT SPORTS:  Kinematic analysis of movement in martial arts  Kinetic analysis of strength and force in martial arts  Electromyography (EMG) and its application in martial arts  Analysis of tactical and strategic elements in martial arts  Performance analysis of athletes in martial arts</p> <p>APPLICATION OF KINESIOLOGICAL AND ANTHROPOLOGICAL ANALYSIS IN FIGHTER TRAINING AND REHABILITATION:  Training planning and periodization in martial arts  Factors affecting training success in martial arts  Injury rehabilitation methods in martial arts  Individualization of training and adaptation to specific needs  Physiology and energy processes in martial arts  Motor learning and movement control in martial arts  APA research in martial arts</p>		
	Knowledge: Understand scientific concepts and principles of kinesiology and anthropology applied to martial arts. Familiarize with and analyze scientific literature and research in the field of martial arts.		





Learning outcomes	<p>Identify and apply relevant research methods in the kinesiological and anthropological analysis of martial arts. Understand the ethical and methodological aspects of research in martial arts. Skills: Analyze the kinesiological and anthropological characteristics of martial arts using appropriate research methods. Interpret the results of kinesiological and anthropological analysis of martial arts and draw conclusions based on collected data. Apply critical thinking and evaluate scientific papers and research in the field of martial arts. Communicate research findings through writing scientific articles and presentations at conferences. Competencies: Demonstrate the ability to independently research and analyze martial arts from kinesiological and anthropological perspectives. Apply acquired knowledge and skills to solve complex problems in the context of martial arts. Integrate multidisciplinary knowledge from kinesiology and anthropology to contribute to the advancement of martial arts. Apply ethical standards and principles in martial arts research.</p>																		
Teaching methods	<p>Lectures, group discussions and individual and small group exercises. Assignments will include practicing different qualitative data collection and analysis techniques individually and/or in teams, followed by presentation of results in class and discussion. It will include: observation, semi-structured interview, informal interview, visual data collection, focus group discussion notes, identification, coding and analysis of themes.</p>																		
Assessment methods with grading structure	<p>Prerequisite for taking the exam 80% class attendance</p> <hr/> <p style="text-align: center;">ASSESSMENT OF KNOWLEDGE AND EVALUATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Criterion</th> <th style="width: 20%;">Points</th> <th style="width: 40%;">Minimum number of points for the condition</th> </tr> </thead> <tbody> <tr> <td>Consultations</td> <td style="text-align: center;">10</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Workshops</td> <td style="text-align: center;">20</td> <td style="text-align: center;">11</td> </tr> <tr> <td>Seminars/Discussions</td> <td style="text-align: center;">30</td> <td style="text-align: center;">16</td> </tr> <tr> <td>Final exam*</td> <td style="text-align: center;">40</td> <td style="text-align: center;">22</td> </tr> <tr> <td><b>Total</b></td> <td style="text-align: center;"><b>100</b></td> <td style="text-align: center;"><b>55</b></td> </tr> </tbody> </table> <p>*Test: 5 &lt; 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9= 36-38 points; 10=39- 40 points</p>	Criterion	Points	Minimum number of points for the condition	Consultations	10	6	Workshops	20	11	Seminars/Discussions	30	16	Final exam*	40	22	<b>Total</b>	<b>100</b>	<b>55</b>
Criterion	Points	Minimum number of points for the condition																	
Consultations	10	6																	
Workshops	20	11																	
Seminars/Discussions	30	16																	
Final exam*	40	22																	
<b>Total</b>	<b>100</b>	<b>55</b>																	
Literature	<p>Mandatory: Drid, P., Casals, C., Mekic, A., Radjo, I., Stojanovic, M., &amp; Ostojic, S.M. (2015). Fitness and anthropometric profiles of international vs. national judo medalists in half-heavyweight category. The Journal of Strength &amp; Conditioning Research 29 (8), 2115-2121 Kapo, S. (2013). Osnovni elementi boksa- plemenita borilačka vještina. Fakultet sporta i tjelesnog odgoja Univerziteta u Sarajevu. Štampa CPU Sarajevo. Kapo, S. (2011). Karate - pronađi svoj put. Fakultet sporta i tjelesnog odgoja Univerziteta u Sarajevu. Rađo, I., Kajmović, H., Kapo, S. (2001). Judo. Fakultet za fizičku kulturu. Univerzitet u Sarajevu.</p>																		



<p>Kapo, S., &amp; Uštović, I. (2017). Zaštita moderne društvene zajednice od porokasuvremenog doba kroz nauku, sport i pisane medije. Fakultet sporta i tjelesnog odgoja, Sarajevo.</p> <p>Kapo, S.(2015). Efikasnost izvođenja tehnika i taktika u karateu na osnovu utjecaja bazično-motoričkih sposobnosti. Fakultet sporta i tjelesnog odgoja, Sarajevo.</p> <p>Kapo, S. (2023) .Taewkondo – izvor životnih vrijednosti. Fakultet sporta i tjelesnog odgoja. Sarajevo.</p> <p>Kajmovic, H., Karpljuk, D., Kapo, S., &amp; Šimenko, J. (2022). Comparison of Individual Penalties According to Gender and Weight Categories of Elite Judo Athletes from four World Championships. <i>Biology</i> 11 (9), 1284</p> <p>Kajmovic, H., &amp; Radjo, I.(2014). A comparison of gripping Configuration and throwing techniques efficiency index in Judo between male and female judoka during Bosnia and Herzegovina Senior State Championships. <i>International Journal of Performance Analysis in Sport</i> 14 (2), 620-634</p> <p>Kajmovic, H., Rađo, I., Mekic, A., Crnogorac, B., &amp; Colakhodzic, E. (2014). Differences in gripping configurations during the execution of throwing techniques between male and female cadets at the European Judo Championship. <i>Archives of Budo</i></p> <p>Kajmovic, H., Kapur, A., Radjo, I., &amp; Mekic, A. (2014). Differences in performance between winners and defeated wrestlers in the European Championships for cadets. <i>International Journal of Performance Analysis in Sport</i> 14 (1), 252-261</p> <p>Kajmović, H., i Radjo, I. (2012). Tipološke strukture situacijske efikasnosti u džudou. Fakultet sporta i tjelesnog odgoja. Sarajevo.</p> <p>Kapo, S., Rado, I., Kajmovic, H., Čović, N., &amp; Kovac, S. (2015). Programmed training effects on body composition indicators of female karate athletes from 12 to 14 years of age. <i>Archives of Budo Science of Martial Arts and Extreme Sports</i>,11: 163-168</p> <p>Kapo, S., Smajlović, S., Kajmović, H., Ćirić, A., Ćutuk, M., &amp; Bejdić, A. (2016). Effects of different stretching protocols on knee muscles strength and power parameters measured by Biodex dynamometer, <i>Technical Gazzete</i>, 23 (1): 273-278</p> <p>Supplementary: Archives of Budo Archives of Budo Science of Martial Arts and Extreme Sports Biology Chinese Wushu Research Journal of Human Kinetics Journal of Sport Science Journal of Sport Science and Medicine Journal of Ido Movement for Culture Journal of Combat Sports and Martial Arts Journal of Combat Sports and Martial arts International Journal of Fundamental and Applied Kinesiology International Journal of Martial Arts International Journal of Wrestling Science Revista de Artes Marciales Asiáticas (RAMA) Martial Arts Studies MDPI - Publisher of Open Access Journals Research Journal of Budo</p>
---



Subject code: DSK205	KINESIOLOGY AND ANTHROPOLOGY ANALYSIS OF BASIC SPORTS		
Cycle: III	Year: I	Semester: II	Number of ECTS credits: 10
Status: Optional	Total number of hours: 250 Lectures: 30 Workshops: 30 Consultations/Seminars/Discussions: 30 Independent work: 160		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To provide doctoral students with the necessary theoretical and methodological knowledge, skills and competences necessary for the scientific analysis and research of basic sports from a kinesiological and anthropological perspective, and an understanding of the complex interaction between kinesiological aspects (biomechanics, physiology, kinanthropometry) and anthropological aspects (cultural, socioeconomic, ethical) which form basic sports as well as their disciplines and their application in education, recreation, adaptive sports, school sports and elite sports.		
Thematic units	Scientific Foundations of Basic Sports: Concepts and definitions of basic sports. Development of basic sports and their role in sporting and adaptive contexts. Models and approaches to kinesiological and anthropological analysis of basic sports. Biomechanics in Basic Sports: Analysis of movement and kinematic variables in basic sports. Dynamic analysis and application of biomechanical laws in basic sports. Impact of biomechanical factors on performance in basic sports. Physiology of Basic Sports: Energy and metabolism in basic sports. Physiological demands of basic sports and body adaptation to training. Physiological factors affecting performance in basic sports. Kinanthropometry in Basic Sports: Anthropological characteristics of athletes in basic sports. Methods of measuring body composition and their relationship with performance in basic sports. Impact of kinanthropometric factors on sports development and achievements. Analysis of Technique and Tactics in Basic Sports: Analytical approach and methods for analyzing performance technique in basic sports. Analysis of tactical elements and strategies in basic sports. Impact of technique and tactics on results and performance in basic sports. Psychological Aspects of Basic Sports: Motivation, concentration, and self-confidence in basic sports. Stress and emotion management in basic sports. Cognitive and psychological strategies for achieving top results in basic sports. Application of Technology in Basic Sports: Use of advanced technologies such as sensors, cameras, analytical software, etc., for analyzing basic sports. Application of technological tools in data collection, performance analysis, and training optimization in basic sports.		



	<p>Biological Factors in Basic Sports: Impact of genetics on sports performance in basic sports. Biological markers and biomolecular analyses in monitoring sports development and training in basic sports. Impact of diet and nutrition on performance and recovery in basic sports.</p> <p>Research Methodology in Basic Sports: Research planning and formulation of research hypotheses in the field of basic sports. Data collection methods, including testing, surveys, observation, and other relevant techniques. Data analysis and statistical methods in basic sports research.</p> <p>Innovations and Development in Basic Sports: New technological solutions and trends in basic sports. Innovative approaches to training and development in basic sports. Impact of new knowledge from kinesiological and anthropological analysis on improving basic sports.</p>
Learning outcomes	<p>Knowledge: Understanding the theoretical and conceptual foundations of kinesiological and anthropological analysis in basic sports. Knowledge of the kinesiological characteristics of basic sports, including biomechanics of movement, physiology during sport performance, and kinanthropometric aspects of athletes. Recognition of anthropological factors influencing basic sports, such as cultural context, sociological influences, ethical aspects, and societal perception of sports. Understanding of scientific research methods and techniques in basic sports, including data collection, data analysis, and interpretation of research results.</p> <p>Skills: Application of scientific methods and techniques in researching basic sports, including collecting and analyzing relevant data. Analysis and interpretation of research results to draw conclusions and implications for basic sports. Critical reading, evaluation, and synthesis of scientific literature and research papers in the field of kinesiological and anthropological analysis of basic sports. Communication and presentation of scientific knowledge and research findings in the form of written articles and presentations.</p> <p>Competencies: Development of research competencies in the field of kinesiological and anthropological analysis of basic sports through independent planning, conducting, and analyzing research projects. Development of critical thinking skills and the ability to evaluate research articles and literature in the field of basic sports. Integration of theoretical knowledge and practical skills to apply kinesiological and anthropological analysis in optimizing training, sports development, and improving performance in basic sports. Understanding of ethical and professional standards in research and practice in basic sports.</p>
Teaching methods	Lectures, group work and interactive work during class, mini research papers and their presentation during class
Assessment methods with grading structure	<p>Prerequisite for taking the exam</p> <p style="text-align: right;">80% class attendance</p> <hr/> <p style="text-align: center;">ASSESSMENT OF KNOWLEDGE AND EVALUATION</p>



	Criterion	Points	Minimum number of points for the condition
	Consultations	10	6
Workshops	20	11	
Seminars/Discussions	30	16	
Final exam*	40	22	
Total	100	55	
*Test: 5 < 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9= 36-38 points; 10=39- 40 points			
Literature	<p>Mandatory:</p> <p>Aleksandrović, M., Jorgić, B., &amp; Mirić, F. (2016). Holistic Approach to Adapted Physical Activity. Niš: Faculty of Sport and Physical of University of Niš</p> <p>Bosch, F., Klomp, R. (2005). Running, Biomechanics and Exercise Physiology Applied in Practise. Elsevier.2.</p> <p>Caine, D. J., Russell, K., &amp; Lim, L. (Eds.). (2013). Handbook of sports medicine and science: gymnastics. John Wiley &amp; Sons.</p> <p>Čoh, M. (2008). Biomechanical diagnostic methods in athletic training. Ljubljana: Faculty of sport, Institute of Sport, Institute of kinesiology.</p> <p>DeVries, H. A. (1974). Physiology of exercise for physical education and athletics.</p> <p>Maglischo, E. W. (2003). Swimming fastest. Human kinetics.</p> <p>Mcleod, I. (2010). Swimming Anatomy. Human Kinetics.</p> <p>Sherrill, C. (1993) Adapted physical activity recreation and sport, Crossdisciplinary and Lifespan. United States of America, Dubucue.</p> <p>Werner, P. H., Williams, L. H., &amp; Hall, T. J. (2012). Teaching children gymnastics. Human Kinetics.</p> <p>Supplementary:</p> <p>Cavanagh, P. R. (1990). Biomechanics of distance running. Champaign, Illinois: Human Kinetics Books.</p> <p>Webb, P. W., &amp; Blake, R. W. (2013). Swimming. In Functional vertebrate morphology (pp. 110-128). Harvard University Press.</p>		



Subject code: DSK206	KINESIOLOGY AND ANTHROPOLOGY ANALYSIS IN RECREATION		
Cycle: III	Year: I	Semester: II	Number of ECTS credits: 10
Status: Optional	Total number of hours: 250 Lectures: 30 Workshops: 30 Consultations/Seminars/Discussions: 30 Independent work: 160		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To provide students with advanced scientific knowledge, skills and competences necessary for scientific research and analysis of aspects of recreation, and the acquisition of a more detailed understanding of recreational activities and their impact on the human body and society, as well as the application of scientific methods and techniques in order to improve recreational programs and practices.		
Teaching units	<p>Theories of Recreation: Exploration of key theoretical frameworks used in recreation research, such as sociological, psychological, physiological, and anthropological theories. Analysis of their application in understanding recreational phenomena and shaping recreational policies and programs.</p> <p>Research Methodology in Recreation: Methodological approaches and techniques used in recreation research. Emphasis on advanced data collection methods, analytical techniques, and statistical models relevant to recreation research.</p> <p>Measurement and Assessment of Recreational Activities: In-depth study of various measurement instruments and methods used to assess recreational activities. Analysis of their reliability, validity, and applicability in the context of advanced research designs and statistical analyses.</p> <p>Recreational Anthropology: Exploration of anthropological aspects of recreation, including ethnographic methods, interpretive approaches, and analysis of cultural contexts of recreation. Focus on understanding socio-cultural factors shaping recreational patterns and practices.</p> <p>Recreation and Health: Scientific analysis of the relationship between recreation and health, including research on the physical, mental, and emotional effects of recreation on individuals and communities. Focus on advanced research studies examining specific mechanisms and pathways through which recreation impacts health.</p> <p>Recreation and Social Change: Analysis of the role of recreation in social change, including research on political, economic, and social factors influencing recreational practices and policies. Focus on critically understanding social inequalities, power dynamics, and changes through the lens of recreation.</p> <p>Scientific Evaluation of Recreation Programs and Policies: Investigation of advanced evaluation methods and techniques used to assess the effectiveness of recreational programs and policies. Focus on designing evaluation studies, identifying key impact indicators, and analyzing evaluation results. Presentation of critical thinking on evaluation approaches to ensure the relevance and validity of obtained results.</p> <p>Innovations in Recreational Practices:</p>		



	<p>Exploration of new and innovative approaches in recreational practices, including technological advances, digital tools, intervention strategies, and program design. Focus on applying scientific research to identify best practices and enhance recreational experiences.</p> <p>Ethics in Recreation Research and Practice: Ethical issues arising in recreation research and practice. Analysis of consent, privacy, participant rights, community relations, and professional standards. Promotion of responsible and ethical behavior in recreation research and practice.</p> <p>Advanced Analytical Techniques in Recreation Research: Exploration of advanced statistical and analytical techniques applied in recreation research. Focus on multivariate analysis, longitudinal research, meta-analysis, and other advanced statistical models enabling deeper understanding of complex relationships in the field of recreation.</p> <p>Communication and Dissemination of Research Results: Development of communication skills and dissemination of research results in the field of recreation. Focus on writing scientific articles, presenting at conferences, communicating with practitioners and the broader public, and promoting transparency and accessibility of scientific information.</p> <p>Critical Thinking and Literature Analysis: Encouragement of critical thinking and analysis of relevant literature in the field of recreation. Development of abilities to critically evaluate research studies, theories, and conceptual frameworks. Encouragement of understanding current trends, controversies, and new knowledge in the field of recreation.</p>
Learning outcomes	<p>Knowledge: Understanding theoretical and conceptual frameworks related to recreation, including sociological, psychological, physiological, and anthropological aspects. Familiarity with methodological approaches to research in the field of recreation and the application of appropriate research methods. Understanding of relevant methods and tools for kinesiological and anthropological analysis in recreation.</p> <p>Skills: Application of scientific methods for data collection, analysis, and interpretation of research results in the field of recreation. Critical thinking and evaluation of scientific articles, research projects, and recreational programs. Communication of scientific knowledge and research findings through writing scientific articles and presentations.</p> <p>Competencies: Developing research skills for independent planning, conducting, and analyzing research in the field of recreation. Analysis and interpretation of data to make informed decisions about recreational programs and policies. Teamwork and collaboration with other experts in the field of recreation to integrate scientific findings into practice. Critical thinking and application of scientific results to improve recreational practices and promote health.</p>
Teaching methods	<p>Lectures, group discussions and individual and small group exercises. Assignments will include practicing different qualitative data collection and analysis techniques individually and/or in teams, followed by presentation of results in class and discussion. It will include: observation, semi-structured interview, informal interview, visual data collection, focus group discussion notes, identification, coding and analysis of themes.</p>



Assessment methods with grading structure	Prerequisite for taking the exam	80% class attendance	
	ASSESSMENT OF KNOWLEDGE AND EVALUATION		
		Minimum number of points for the condition	
	Criterion	Points	
	Consultations	10	6
	Workshops	20	11
	Seminars/Discussions	30	16
Final exam*	40	22	
Total	100	55	
*Test: 5 < 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9= 36-38 points; 10=39- 40 points			
Literature	<p>Mandatory:</p> <p>Andrijašević, M. (2010). Kineziološka rekreacija. Sveučilišni udžbenik. Zagreb. Kineziološki fakultet Sveučilišta u Zagrebu.</p> <p>Andrijašević, M., Jurakić, D. (2010). Kineziološki sadržaji i društveni život mladih. Programi sportske rekreacije u slobodnom vremenu djece i mladih. Zagreb: Kineziološki fakultet Sveučilišta u Zagrebu, 2010. str. 13-19</p> <p>Blagajac, M. (1994). Teorija sportske rekreacije. Beograd.SIA.</p> <p>Hoffman J. (2006). Norms for Fitness, Performance, and Health. Champaign (IL): Human Kinetics.</p> <p>Travis, J.W., Clander, M.G. (1994). A change of heart: The Global Wellness Inventory. (S.L.). Arcus Press.</p> <p>Vrcić, M., Kovačević, E., Abazović, E. (2016). Fitness-individualni programi. Fakultetska knjiga, Fakultet sporta i tjelesnog odgoja, Sarajevo.</p> <p>Supplementary:</p> <p>Bartoluci, M. i sur. (2004). Menedžment u sportu i turizmu. Zagreb: Kineziološki fakultet, Ekonomski fakultet.</p> <p>Corbin, B.C., R. Lindsey, I.G. Welk &amp; R.W. Corbin (2002). Concepts of fitness and wellness. Mc Graw Hill Companies, New York, USA.</p> <p>Kazazović, E., Čaplan, A., (2017). Planine i planinarstvo. Fakultet sporta i tjelesnog odgoja, Univerziteta u Sarajevu.</p> <p>Kovačević, E., Čović, N., Vrcić, M., Abazović, E., Babajić, F. (2023). Antropomotorika, Fakultet sporta i tjelesnog odgoja, Univerziteta u Sarajevu. Elektronsko izdanje.</p> <p>Malacko, J. &amp; Popović, D. (1997). Metodologija kineziološko antropoloških istraživanja. Fakultet za fizičku kulturu Univerziteta u Prištini.</p> <p>Mekić, M., Kazazović, B. (1997). Logičke osnove kvantitativnih metoda u kineziologiji. Knjiga, Fakultet za fizičku kulturu, Univerziteta u Sarajevu.</p> <p>Vrcić, M., Pavlović, R., Kovačević, E., Solaković, S., Hadžimuratović, S. (2023). The effects of recreational cardio fitness programs on the body composition of young women. Pedagogy of Physical Culture and Sports. Vol. 27 No 2. 112-122.</p> <p>Welk, G.J, Meredith, M.D. (2010). Fitnessgram activity gram test administration manual, Updated 4th ed. Champaign, IL. Human Kinetics.</p>		





Subject code: DSK207		KINESIOLOGY AND ANTHROPOLOGY ANALYSIS IN KINESITHERAPY AND APA	
Cycle: III	Year: I	Semester: II	Number of ECTS credits: 10
Status: Optional	Total number of hours: 250 Lectures: 30 Workshops: 30 Consultations/Seminars/Discussions: 30 Independent work: 160		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	Acquisition of knowledge and competence related to scientific research, selection, implementation, construction of kinesiology kinesitherapy and APA programs, as well as selection of appropriate diagnostic methods and interpretation with analysis of their results, as an interdisciplinary field that combines kinesiology and therapeutic approaches.		
Thematic units	<p>Introduction to Kinesiological Kinesiotherapy and APA:            Definition and significance of kinesiological kinesiotherapy and APA            Principles of scientific research in kinesiological kinesiotherapy and APA:            Overview of research methods and techniques            Application of ethical principles in research (e.g., Helsinki Declaration)            Diagnostic methods in kinesiological kinesiotherapy and APA:            Practical application of diagnostic methods            Interpretation and analysis of diagnostic results:            Critical analysis and interpretation of diagnostic procedures results            Development and implementation of kinesiological-kinesiotherapeutic and APA programs:            Principles of program design and implementation            Practical workshops and simulations for program development and implementation            Detection and analysis of potential problems in APA:            Methods for identifying problems            Approaches for analyzing and resolving problems            Anatomically conditioned posture changes - congenital, mechanical, and pathological causes (APA):            Detailed analysis of anatomical factors influencing posture            Linking anatomical factors with APA            Evaluation of the effectiveness of kinesiological-kinesiotherapeutic and APA programs:            Methods and techniques for assessing program effectiveness            Discussion and reflection on evaluation results</p>		
Learning outcomes	<p>Knowledge:            Understanding the fundamental concepts of kinesiological kinesiotherapy and APA.            Knowledge of scientific methods and principles used for research in kinesiological kinesiotherapy and APA.            Understanding diagnostic methods for assessing postural status and movement abilities.            Understanding the ethical principles of the Helsinki Declaration in the context of potential studies.</p> <p>Skills:            Ability to select and implement appropriate diagnostic methods.</p>		





Pescatello, L. S. (Ed.). (2015). *Effects of exercise on hypertension: from cells to physiological systems*. Springer.

Sullivan, P. E., & Markos, P. D. (1995). *Clinical decision making in therapeutic exercise*. Prentice Hall.

Wilson, F., Gormley, J., & Hussey, J. (Eds.). (2011). *Exercise therapy in the management of musculoskeletal disorders*. John Wiley & Sons.

Xiao, J. (Ed.). (2017). *Exercise for Cardiovascular Disease Prevention and Treatment: From Molecular to Clinical, Part 2 (Vol. 1000)*. Springer.



Subject code: DSK208	RESEARCH IN ORGANIZATION AND MANAGEMENT IN KINESIOLOGY		
Cycle: III	Year: I	Semester: II	Number of ECTS credits: 10
Status: Optional	Total number of hours: 250 Lectures: 30 Workshops: 30 Consultations/Seminars/Discussions: 30 Independent work: 160		
Participants in classes	Teachers and associates selected for the field to which the subject belongs		
Prerequisite for enrollment	Defined by the rules of the III study cycle		
Objective of the course	To develop the ability of doctoral students to apply scientific research methods in the field of kinesiology, different organizational models and structures used in the field of kinesiology, to explore human resource management strategies in the context of kinesiology and to explore concepts and methods of quality management in the field of kinesiology.		
Thematic units	<p>Introduction to Research in Kinesiology Organization and Management:            Definition and significance of kinesiological organization and management research.            Principles of scientific research in kinesiological organization and management:            Overview of research methods and approaches.            Application of ethical principles in research (e.g., Helsinki Declaration).            Diagnostic methods in kinesiological organization and management:            Practical application of diagnostic methods.            Interpretation and analysis of diagnostic results:            Critical analysis and interpretation of diagnostic procedures.            Design and implementation of kinesiological-kinetic therapy and APA programs:            Principles of program design and implementation.            Practical workshops and simulations for program design and implementation.            Detection and analysis of potential problems in APA:            Methods for problem identification.            Approaches to problem analysis and resolution.            Anatomically conditioned changes in posture - congenital, mechanical, and pathological causes (APA):            Detailed analysis of anatomical factors affecting posture.            Linking anatomical factors to APA.            Evaluation of the effectiveness of kinesiological-kinetic therapy and APA programs:            Methods and techniques for assessing program effectiveness.            Discussion and reflection on evaluation results.</p>		
Learning outcomes	<p>Knowledge:            Understanding of theoretical foundations and concepts in the field of organization and management applied to kinesiology.            Knowledge of research methods, statistical analyses, and other relevant research procedures in the field of organization and management in kinesiology.            Familiarity with current research and findings in organization and management in kinesiology.            Skills:            Application of research methods and techniques in conducting research in the field of organization and management in kinesiology.            Critical and analytical thinking in evaluating literature, identifying research problems, and formulating research questions.</p>		



	<p>Interpretation and presentation of research results and the preparation of scientific papers and reports.</p> <p>Ability to understand, interpret, infer, and interpret scientific knowledge in the field of research in organization and management in kinesiology.</p> <p>Competencies:</p> <p>Ability to plan and conduct research in organization and management in kinesiology. Analysis and evaluation of organizational and managerial processes in the context of kinesiology organization and management to improve practice and make strategic decisions.</p> <p>Communication and collaboration with other researchers and experts in the field of kinesiology to promote scientific exchange and the application of research results.</p>																		
Teaching methods	<p>Teaching methods are lectures, group discussions and individual and small group exercises. Tasks will include practicing different techniques of qualitative data collection and analysis individually and/or in teams, then presenting the results in class and discussing them. It will include: observation, semi-structured interview, informal interview, visual data collection, focus group discussion notes, identification, coding and analysis of themes.</p>																		
Assessment methods with grading structure	<p>Prerequisite for taking the exam 80% class attendance</p> <hr/> <p style="text-align: center;">ASSESSMENT OF KNOWLEDGE AND EVALUATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Criterion</th> <th style="text-align: center;">Points</th> <th style="text-align: center;">Minimum number of points for the condition</th> </tr> </thead> <tbody> <tr> <td>Consultations</td> <td style="text-align: center;">10</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Workshops</td> <td style="text-align: center;">20</td> <td style="text-align: center;">11</td> </tr> <tr> <td>Seminars/Discussions</td> <td style="text-align: center;">30</td> <td style="text-align: center;">16</td> </tr> <tr> <td>Final exam*</td> <td style="text-align: center;">40</td> <td style="text-align: center;">22</td> </tr> <tr> <td><b>Total</b></td> <td style="text-align: center;"><b>100</b></td> <td style="text-align: center;"><b>55</b></td> </tr> </tbody> </table> <p>*Test: 5 &lt; 22 points; 6= 22- 25; 7= 26 - 30 points; 8= 31- 35 points; 9= 36-38 points; 10=39- 40 points</p>	Criterion	Points	Minimum number of points for the condition	Consultations	10	6	Workshops	20	11	Seminars/Discussions	30	16	Final exam*	40	22	<b>Total</b>	<b>100</b>	<b>55</b>
Criterion	Points	Minimum number of points for the condition																	
Consultations	10	6																	
Workshops	20	11																	
Seminars/Discussions	30	16																	
Final exam*	40	22																	
<b>Total</b>	<b>100</b>	<b>55</b>																	
Literature	<p>Obavezna:</p> <p>Brajdić, I. (2002). Vrednovanje anketnih upitnika sa stajališta ispitanika-menadžera u turizmu: Tourism and hospitality management, 8 (1-2): 65-78.</p> <p>Likertova ljestvica. (2021). Hrvatska enciklopedija, mrežno izdanje: Leksikografski zavod Miroslav Krleža.</p> <p>Mašala, A. (2018). Osnove marketinga u sportu. Fakultet sporta i tjelesnog odgoja Univerziteta u Sarajevu: Sarajevo, Agencija ALIGO Sarajevo</p> <p>Mašala, A., i sar. (2017). Institucionalni okviri menadžmenta u sportu. Fakultet sporta i tjelesnog odgoja Univerziteta u Sarajevu: Sarajevo, "Svjetlost" Fojnica d.o.o.</p> <p>Mašala, A., Manić, G., I. Mahmutović, I. (2015). Karakteristike i osobine menadžera u sportu, Fakultet za menadžment u sportu Alfa univerzitet, Beograd: 10<sup>th</sup> International Scientific Conference CHALLENGES IN CONTEMPORARY SPORT MANAGEMENT, 195-205.</p> <p>Mujkic, D., Gentile, A. &amp; Uyar, Y. (2023). Need for new competencies linking Sport, Culture and Creative Industry. Sport, health, economics and society (Shes) series. Essays in sport research, 63-66.</p> <p>Petz, B. (1985). Osnove statističke metode za nematematičare. Zagreb: Sveučilišna naklada Liber.</p> <p>Simović, S., Talović, M., Alić, H., Jelešković, E., i Ormanović, Š. (2023). Sportski menadžment (pojam, značaj i filozofija, razvojne teorije, organizacija i menadžeri,</p>																		



	<p>Planiranje). Fakultet sporta i tjelesnog odgoja Univerziteta u Sarajevu: Banja Luka, Grafid d.o.o.</p> <p>Rađo, I., &amp; Mujkić, D. (2018). Projekt menadžment, od ideje do realizacije. Fakultet sporta i tjelesnog odgoja, Sarajevo.</p> <p>Simović, S., Talović, M., Alić, H., Jelešković, E., i Ormanović, Š. (2023). Sportski menadžment (organiziranje, menadžment ljudskih resursa, vođenje, kontrola). Fakultet sporta i tjelesnog odgoja Univerziteta u Sarajevu: Banja Luka, Grafid d.o.o.</p> <p>Stankov, U., Filimonau, V., Vujičić, MD., Basarin, B., Carmer, AB., Lazić, L., Hansen, BK., Ćirić Lalić, D., &amp; Mujkić, D. (2023). Ready for Action! Destination Climate Change Communication: An Archetypal Branding Approach. <i>International Journal of Environmental Research and Public Health</i>. 20(5):3874.</p> <p>Stojsavljevic, R., Vujičić, M.D., Stankov, U., Stamenkovic, I., Masliković, D., Carmer, A.B., Polić, Mujkić, D., &amp; Bajić, M. (2023). In Search For Meaning? Modelling Generation Z Spiritual Travel Motivation Scale. <i>Sustainability</i>, 15 (6), 5292</p> <p>Weihrich, H., &amp; Koontz, H.(1998). Menadžment, 10. izdanje: Zagreb. Mate.d.o.o.</p>
--	---

Dr. Husnija Kaimović, full professor  
Vice dean for science and Head of the III cycle of studies