

**MED 3005 –STATISTICAL SOFTWARES and BIOSTATISTICS I**

Course Name	Code	Semester	Type of course	Theory (hours)	Work in Group (hours)	ECTS
STATISTICAL SOFTWARES and BIOSTATISTICS I	MED 3005	V	Mandatory	15	26	3
Faculty, the educational program and education level	Faculty of Medicine, one-cycle Educational Program “Medicine”					
Author (s)	<p><b>Khatuna Katamadze</b> - invited specialist, MD, MPH, Mob. Tel.: 577440646; E-mail: <a href="mailto:khatunak@gmail.com">khatunak@gmail.com</a></p> <p><b>Nino Lomia</b> -invited specialist Mob. Tel: :595 19 70 55; E-mail:ninolomia@yahoo.com</p>					
Educational course format	LECTURE WORK IN GROUP					
Educational course volume	<p><b>Total:</b> 90 hours <b>Contact hours:</b> 45 h, among them:</p> <ol style="list-style-type: none"> <li>1. Lecture – 15 h</li> <li>2. Team work – 26 h</li> <li>3. Midterm Exam – 2 h</li> <li>4. Final Exam -2 h</li> </ol> <p><b>Independent work</b> – 45 h</p>					
Prerequisites	No prerequisites					
The purpose (s) of tutorial course/modules	<p>The purpose of this course is to give basic knowledge about statistical softwares and approach on biostatistics. How to choose corresponding statistical program among several alternatives. Students will learn how the knowledge gained in this course to be used in public health programs.</p>					
Teaching and learning strategy	<p><b>Lectures will be conducted</b> based on the application of verbal explanation method, demonstration- the method of visual presentation of the information.</p> <p>In order to develop the skills of making conclusions supported by the arguments the students, during the <b>group work</b>, will defend and justify their opinions, when dealing with situation analysis, and analyze critically the situation created by their course mate. The students will also carry out the analysis of the clinical cases, interpret, classify, assess the data and make synthesis by means of connecting and confluencing of the components comprising the separate issues.</p> <p><b>When working on the project</b> the student will use the method of working on the book. Besides he/she has to get familiarized with publications, process the literature, search for the additional material and present the project in slideshow format.</p> <p>During the Poster preparation, students work on the unknown material in the limited time and</p>					

	<p>then present it, also evaluate each other.</p> <p><b>Consultation</b> –individual support work with students (weekly)</p>
<p><b>Assessment criteria</b></p>	<p><b>Maximum score- 100</b>  <b>Final Exam – 40 points</b>  <b>Other components of midterm assessment are:</b></p> <ul style="list-style-type: none"> <li>• Attendance on lectures - 10 points (0.66X15=10);</li> <li>• Activity on Group work – 10 points:</li> <li>• Poster preparation -10 points;</li> <li>• Presentation -10 points</li> <li>• <b>Midterm Exam – 20 points</b></li> </ul> <p style="text-align: center;"><b>Group Work are Assessed Based on the Following Criteria</b> (maximum 10 point)</p> <p><b>10 points</b> - Student has been able to present complete and thorough knowledge of the subject, a substantial amount of detailed and relevant information. Demonstrate considerable depth of understanding of the studied main and additional literature. Bring forward a balanced view of the main arguments on the issues.</p> <p><b>9 points</b> - Student has been able to bring forward a consistent number of deductions on most of the topics tackled. make very good comments on the different perspectives on most of the issues. Demonstrates knowledge of the main readers.</p> <p><b>8 points</b> - Student has been able to bring forward a consistent knowledge, Has properly developed terminology. Demonstrates knowledge of the main readers.</p> <p><b>7 points</b> - Student has been able to present some factual information sufficiently linked with the topic. demonstrate a good understanding of the topics selected. make a good attempt to bring forward a balanced view of some arguments on the issues. Terminology is partially developed.</p> <p><b>6 points</b> - Student has been able to make some good comments on the different perspectives on some of the issues. Make poor deductions on most of the topics tackled. analyse some causes and results of human interactivity related to the issues.</p> <p><b>5 points</b> - Student has been able to demonstrate inconsistent comments on the different perspectives on some of the issues. Terminology is partially developed. Present mediocre level of knowledge. Make poor deductions.</p> <p><b>4 points</b> - Student demonstrates general overview of the topics. Terminology is not developed. Information sufficiently linked with the topic. Demonstrate irrelevant understanding of the literature.</p> <p><b>3 points</b> – Student demonstrates general/superficial and inconsistent knowledge of the subject. No sufficient knowledge of the literature.</p> <p><b>2 points</b> - Student demonstrates general comments, no knowledge of the terminology, no consistency.</p> <p><b>1 point</b> – Student demonstrates insufficient answer, not terminology awareness, chronologic manner of the answer, mostly wrong, no knowledge of literature.</p> <p><b>0 point</b> - Student demonstrates not even elementary knowledge of the topics.</p> <p style="text-align: center;"><b>Project Grading – Maximum 10 points</b></p> <ol style="list-style-type: none"> <li>1. Problem Actuality- 1;</li> <li>2. Correct planning- 1;</li> <li>3. Review of the literature on the issue -1;</li> <li>4. Research methods relevance with the research goals - 1;</li> </ol>

5. Logical argumentation - 1;
6. Deductions accuracy and correlation with the main text - 1;
7. Language and style accuracy- 1.
8. Visual and technical parts of the material - 1;
9. Reliability and accuracy of the cited literature - 1;
10. Listening and discussion culture – 1.

**Poster preparation and presentation – max. 10 points**

- Reglament – 2;
- Academism -2;
- Visual and technical parts of the material -2;
- Listening and discussion culture- 2;
- Language and style accuracy-2.

Students are admitted to the final examination if they score no less than 51 points through the midterm exam and final examinations.

**Midterm Exam – 20 points**

Is held in the written test form (test consists of 40 multiple-choice questions, each question is rated as 0.5 point)

**Final Exam – 40**

Is held in the written test form (test consists of 80 multiple-choice close questions, each question is rated as 0.5point).

Students have to score equal or more than 70% from final exam maximum score (40X70/100=28 maximum 28 points from the overall 40) to pass the final examination.

Credit will be given to the student if he has collected at minimum 51 pints out of 100.

The students' assessment has to be done in the following way:

**Positive rate:**

- (A) Excellent- 91 or more points;
- (B) Very Good- 81-90 points;
- (C) Good- 71-80 points;
- (D) Satisfactory- 61-70 point;
- (E) Enough- 51-60 points;

**Negative rate:**

- (FX) Failure - 41-50 points, which means that a student needs to work more and an independent and considerable further work is required to pass the exam once again to be re-awarded;
- (F) Fail - 40 points or less, which means that the student's diligence is not sufficient and student has to learn the subject all over again.

Student can pass the additional exam during the same semester.

The time interval between the final and the additional exams should be not less than 10 days.

<b>The basic literature</b>	<ul style="list-style-type: none"> <li>• Duglas G. Altman. <b>Practical Statistics for Medical Research</b>. Chapman&amp; Hall/CRC. 1991;</li> <li>• <b>Statistical Methods in Diagnostic Medicine</b>. Xiao-Hua Zhou, Nancy A. Obuchowski, Donna K. McClish, Nancy A. In: Wiley Series in Probability and Statistics. Edition: 2nd ed. Hoboken, N.J., Wiley. John Wiley &amp; Sons, Inc. New York. 2011. eBook.</li> <li>• <b>The Statistical Evaluation of Medical Tests for Classification and Prediction</b> (2004). Margaret Sullivan Pepe, Oxford Statistical Science Series. New York.</li> </ul>
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<b>The auxiliary literature</b>	•
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**The tutorial/learning course content**

N	Thematics	Lecture (hour)	Work in group Appl. (hour)
1	The basic principles of probability, Standard Normal Distribution. Mode, Median, Mean. Measures of Variability.	3	3
	Some of the measurements, which shows the performance of diagnostic tests. Measures of Shape, Skewness,	3	3
	Post-test probability. Programa SPSS	3	3
	<b>Midter Exam</b>		2
	Statistical programs. Frequency Tables. Correlations.	3	3
	ROC curves, some of the statistical calculations using ROC curves	3	3
	Poster		5
	Project		6
16-19	<b>Final Exam</b>		2

**Learning Outcomes**

Criteria	Competences
<b>Knowledge and understanding</b>	After the course students will have a deep knowledge of statistical programs.
<b>Applying of knowledge</b>	Is able to choose some statistical programs.
<b>Judgment Ability</b>	After statistical processing is able to make conclusion.
<b>Value</b>	Is competent to carry out activities which are beneficial for the health care improvement. Can get involved in the public health care system. Can take part in the public health care actions, as an individual or part of the community.