

<b>Subject code:</b> <b>IFI7044</b>	<b>Subject Name:</b> <b>Data Analysis: Inferential Statistics</b>		
<b>Study load:</b> 4 (ECTS/EAP)	<b>Load of contact hours:</b> 26	<b>Study semester:</b> Spring 2014	<b>Assessment:</b> Exam
<b>Objectives:</b>	To create opportunities for acquiring theoretical knowledge and practical skills for processing statistical data and carrying out data analysis with the aid of SPSS software. The course is also set up to support developing one's ability to choose appropriate methods for analysis and presentation, as well as to understand and interpret correctly the meaning of statistical results.		
<b>Course outline:</b>	Population and sample. Normal distribution. Statistical inferences - parametric and nonparametric tests: confidence intervals, tests of statistical significance: t test, chi-square test, ANOVA, Kruskal-Wallis test. Course consists of seminar type lectures and practical classes where students are expected to be actively involved. In addition every student must submit home assignment, where (s)he demonstrates the command of all statistical data analysis techniques presented in the course.		
<b>Learning Outcomes:</b>	<ul style="list-style-type: none"> <li>▪ Understands the difference between descriptive and inferential statistics;</li> <li>▪ Has got experience in setting up questions about data which lead to statistical analysis with methods of inferential statistics;</li> <li>▪ Understands statistical concepts introduced during the course, knows the prerequisites for their correct application and can interpret the results of the analysis correctly;</li> <li>▪ Can recognize different types of variables and choose appropriate statistical techniques accordingly;</li> <li>▪ Can use the SPSS software with the aid of the manual for simple data processing and analysis.</li> </ul>		
<b>Assessment Methods:</b>	Exam		
<b>Teacher(s):</b>	Prof. Katrin Niglas, lekt. Kairi Osula		
<b>Subject name in Estonian:</b>	Andmeanalüüs: üldistav statistika		
<b>Prerequisite subject(s):</b>	Knowledge according to IFI7041		
<b>Compulsory Literature:</b>	Lecture videos by Katrin Niglas Discovering Statistics using SPSS. A. Field or any other statistical textbook by student's choice.		
<b>Replacement Literature:</b>	SPSS Survival Manual (2 <sup>nd</sup> Edition) by Julie Pallant SPSS for Windows Step-by-Step: A Simple Guide and Reference, 14.0 update (7 <sup>th</sup> Edition) by Darren George and Paul Mallery		
<b>Participation and Exam requirements:</b>	Participation in the contact lessons is highly recommended but it is also allowed to learn the material independently (the student must participate in the introductory seminar, which presents the exam requirements). So, all registered students can take the exam, no matter whether and how much they have participated in contact lessons.		
<b>Independent work:</b>	Each student must prepare three different home assignments during the course. Those assignments vary in topics and have practical nature. The last one (3.) consists of practical data analysis, that covers the entire material. Used databases may either be given by the teacher or collected in		

	the framework of any other course (the usage must be approved by the teacher in advance).
<b>Grading criteria scale or the minimal level necessary for passing the subject:</b>	<p>The assessment grade is based on two parts: written test and home works (both of them give 50% of the assessment grade). To get the assessment grade the points will be summed up and converted in to the University system:</p> <p>A (excellent), 91-100%  B (very good), 81-90%  C (good), 71-80%  D (satisfactory), 61-70%  E (poor), 51-60%  F (fail), 0-50%</p> <p>Keeping score for a positive outcome it is necessary that both works are done (at least 51%) (written test, home assignment).</p> <p><b>1. Written test (50%):</b> questions are selected so that they reflect the learning outcomes described in the program for the first four sets. Each question gives a certain number of points.</p> <p>(41-50%) An outstanding and excellent level of achievement of learning outcomes characterized by free and creative use of knowledge and skills beyond a very good level.</p> <p>(1-10%) Significant deficiencies and uncertainty may occur with regard to non-standard situations. The level of knowledge and skills acquired by a student remain below the required minimum and the written test shall be retaken.</p> <p><b>2. Home assignments (50%)</b> will be assessed on a scale:</p> <p>An excellent work (43-50%), outstanding work with only few minor errors.  Good work (35-42%), generally good work with a number of notable errors.  Decent work (26 - 34%), reasonable work but with significant shortcomings.  Less than half of the work is done – fail (25-0%), the work isn't reported or the unsatisfactory and should be re-submitted.</p>
<b>Information about the course:</b>	See separate table below!

### Schedule and program of the course

<b>Date</b>	<b>Planned topics and activities</b>
Seminar 1. 31.01.2014	Introduction to the course. Types of data. Independent and dependent variables. Population and sample. Normal distribution. When and why to use inferential statistics? Statistical inferences. Principles of tests of statistical significance. T-test (Paired samples).
Seminar 2. 14.02.2014	T-test (Independent samples).
Seminar 3. 28.02.2014	ANOVA.
Seminar 4. 14.03.2014	Parametric and nonparametric tests. Chi-square test.
Seminar 5. 28.03.2014	Statistical significance of the correlation coefficient.
Seminar 6. 11.04.2014	All methods together.
Exam (1) 25.04.2014	
Exam (2) 23.05.2014	