IFI7044	**Data Analysis: Inferential Statistics**		
Study load: 4 (ECTS/EAP)	***Load of contact hours:*** 30	***Study semester:*** Spring 2012	Exam
Objectives:	To create opportunities for acquiring theoretical knowledge and practical skills for processing statistical data and caring out data analysis with the aid of SPSS software. The course is also set up to support developing ones ability to chose appropriate methods for analysis and presentation, as well as to understand and interpret correctly the meaning of statistical results.		
Course outline:	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.		
Learning Outcomes:	▪ Understands the difference between descriptive and inferential statistics; ▪ Has got experience in setting up questions about data which lead to statistical analysis with methods of inferential statistics; ▪ Understands statistical concepts introduced during the course, knows the prerequisites for their correct application and can interpret the results of the analysis correctly; ▪ Can recognise different types of variables and choose appropriate statistical techniques accordingly; ▪ Can use the SPSS software with the aid of the manual for simple data processing and analysis. ▪		
Assessment Methods:	Exam		
Teacher(s):	Prof. Katrin Niglas, lekt. Kairi Osula		
Subject name in Estonian:	Andmeanalüüs: üldistav statistika		
Prerequisite subjekt(s):	Knowledege according to IFI7041		
Compoulsory Literature:	Statistics textbook on students' choice.		
Replacement Literature:	Lecture videos by Katrin Niglas SPSS Survival Manual (2nd Edition) by Julie Pallant SPSS for Windows Step-by-Step: A Simple Guide and Reference, 14.0 update (7th Edition) by Darren George and Paul Mallery		
Participation and Exam requirements:	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 registrated students can take the exam, no matter whether and how		

	much they have participated in contact lessons.
Independent work:	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).
Grading criteria scale or the minimal level necessary for passing the subject:	The assessment grade is based on two parts: **1. Written test:** 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. The points will be summed up and converted in to the University system: A (excellent), 91-100% An outstanding and excellent level of achievement of learning outcomes characterised by free and creative use of knowledge and skills beyond a very good level. B (very good), 81-90% A very good level of achievement of learning outcomes characterised by purposeful and creative use of knowledge and skills. Unsubstantive and non-conceptual errors may occur with regard to specific and detailed knowledge and skills. C (good), 71-80% A good level of achievement of learning outcomes characterised by purposeful use of knowledge and skills. Uncertainty and inaccuracies may occur with regard to specific and detailed knowledge and skills. D (satisfactory), 61-70% A sufficient level of achievement of learning outcomes characterised by the use of knowledge and skills in typical situations.Deficiencies and uncertainties may occur with regard to non-standard situations. E (poor), 51-60% A minimally acceptable level of achievement of learning outcomes characterised by limited use of knowledge and skills in typical situations. Significant deficiencies and uncertainty may occur with regard to non-standard situations. F (fail), 0-50% The level of knowledge and skills acquired by a student remain below the

	required minimum ‘F’ is a negative outcome and the written test shall be retaken. **2. Home assignments** will be assessed on a scale: "+" An excellent work (85-100%), outstanding work with only few minor errors. The test score increases by one grade. "0" Good work (67 - 84%), generally good work with a number of notable errors. Leaves the test score the same. "-" Decent work (51 - 66%), reasonable work but with significant shortcomings. Lowers the test score by one grade. "F" less than 50% of the work is done – fail, the work isn’t reported or the unsatisfactory and should be re-submitted. Keeping score for a positive outcome it is necessary that both works are done (written test, home assignment).
Information about the course:	See separate table below!

Schedule and program of the course

Date	**Planned topics and activities**
1.02.2012 16.15-19.45	When and why to use inferential satistics? Statistical inferences. Population and sample. Normal distribution. Confidence intervals, Principles of tests of statistical significance. T-test
7.02.2012 16.15-19.45	Confidence intervals. Paired samples t-test
	Home assignment nr.1. Deadline 14.02
15.02.2012 16.15-19.45	Parametric and nonparametric tests. Tests of statistical significance: t test, chi-square test, ANOVA, Kruskal-Wallis test.
21.02.2012 16.15-19.45	T-test. ANOVA
28.02.2012 16.15-19.45	ANOVA. Chi-square test.
	Home assignment nr.2. Deadline 8.03
22.02.2012 16.15-19.45	Tests of statistical significance: ANOVA, Kruskal-Wallis test. Statistical significance of the correlation coefficient. Statistical significance vs substantial significance.
13.03.2012	Statistical significance of the correlation coefficient.

16.15-19.45	All methods together.
	Home assignment nr.3. Deadline 1.04 (?)
	Exam