APPLIES TO ACADEMIC YEAR 2007/2008

MET 8006 Statistics

Program
Bachelor in Arts and Management (1. year), Bachelor in Auditing (1. year), Bachelor in Business Journalism (1. year), Bachelor in Business Law (1. year), Bachelor in Entrepreneurship (1. year), Bachelor in International Marketing (1. year), Bachelor in IT-management (1. year), Bachelor in Market Communication (1. year), Bachelor in Marketing (1. year), Bachelor in Public Relations (1. year), Bachelor in Real Estate (1. year), Bachelor in Retail Management (1. year), Bachelor in Tourism Management (1. year), Foundation Program in Business Administration, Foundation Program in Marketeconomy, Bachelor in Business and Finance (1. year), Bachelor of Business Administration (1. year)

Responsible for the course
Fred Wenstøp

Department
Economics

Term
According to study plan

ECTS Credits
6

Language of instruction
Norwegian

Objective
The objective of the course is to teach students
- Descriptive statistics
- To explain data analysis printouts from standard software
- The principles of statistical inference – confidence intervals and hypothesis testing
- The most important methods for two variables
- Collection and organization of quantitative data
- Choice of suitable methods
- Interpretation of results in context of real problems

In addition, the course in statistics provides the necessary foundation for other courses in the Business Candidate Program and the Bachelor of Business Administration Program.

Prerequisites
No particular prerequisites

Compulsory literature
Books:
Wenstøp, Fred. 2006. Statistikk og dataanalyse. 9. utg. Oslo: Universitetsforlaget. 400

Recommended literature
Books:
Johannessen, Asbjørn. 2007. Introduksjon til SPSS. 3. utg. Oslo: Abstrakt forlag. 150. Enkel og grei innføring i SPSS. Programvare ikke inkludert
Pallant, J. 2007. SPSS survival manual. 3rd ed. Buckingham: Open University Press

Other:
Wenstøp, Fred. 2006. Statistikk og dataanalyse: Arbeidshefte med bruk av programvare og løsning av case. 9. utg. Oslo: Universitetsforlaget. 250
Aakre, Pål og Fred Wenstøp. Eksamensoppgavesamling med løsningsforslag i MET 8006: Statistikk og dataanalyse. Siste utgave. Oslo: BI Forlag

Course outline

1. Overview, random variation - Chapter 1

2. Sample statistics - order statistics - Chapter 2
3. Statistical inference - confidence intervals - Chapter 3
4. Statistical method, surveys, measurement scales - Chapter 4
5. Probability, set theory - Chapter 5
6. Combinatorics and probability distributions - Chapter 6
7. Hypothesis testing - Chapter 7
8. Non-parametric tests - Chapter 8 except 8.5 and 8.6
9. The normal distribution - Chapter 9
10. Inference about means, the Student-distribution - Chapter 10
11. Categorical variables, contingency tables - Chapter 11
12. Correlation - Chapter 12
13. Simple regression - Chapter 13
14. Choice of method - Chapter 16

Computer-based tools
The colleges will provide further details. Active use of software in the course will facilitate learning and save time in answering assignments. It will also enhance graphical presentations. Moreover, practice in the use of spreadsheet is an asset in itself. Consequently, students are recommended to use software both during the course and for the analysis of the case for the final examination.

Recommended Software: A user should be able to use several types of software, depending on the purpose. We recommend Excel, Statark and SPSS. It is not required that students shall use SPSS, but that they ca interpret SPSS printouts in the textbook at the exam. For those interested in SPSS, see for instance Foster, Jeremy J. 2001. Data analysis using SPSS for Windows versions 8 to 10: A beginners guide. 2nd ed. London: Sage .
Excel is a general purpose spreadsheet with powerful built-in statistical functions that can perform most of the relevant types of calculations.
SPSS is a powerful professional statistical package with functions that also cover more advanced courses in statistics. Full version of SPSS is available from BI at a discount price. (The student version witch comes with the recommended book "SPSS Survival manual", is adequate for this course purpose).
Statark is an Excel-implemented pedagogical tool with functions that are organized according to the chapters in the textbook. It can be downloaded from Universitetsforlaget's home page together with Excel and SPSS datafiles. The workbook Wenstøp, F.: Statistikk og dataanalyse. Arbeidshefte med bruk av programvare shows how Statark and SPSS can be used in problem-solving.

Course structure
The course is based on 42 teaching hours with lectures in which selected, central topics are dealt with. Real cases are used to throw light on the theory. The presentation will be supplemented with the use of software by simulating random variation, graphic presentation, problem-solving and a summary of each chapter. The central educational objective is to teach students how to acquire information with statistical methods. The lectures, therefore, will be practical in orientation, and the discussion of statistics as a method to acquire knowledge is as important as technical skills. Emphasis is therefore placed on the students' ability to read reports that contain listings such as they will find when employing standard software.
Students are expected to study independently the parts of the litterature that are not dealt with in the lectures, and thus acquire a coherent and full understanding of statistics as defined in the syllabus. It is important that the students start to use computational tools early in the course, so that they have acquired confidence with their chosen tool in good time before the final exam. In addition to 42 hours of lectures, there will be 12 hours of training in the use of computer software, in the beginning middle and end of the semester.

Evaluation
A three-hour individual multiple-choice examination completes the course. In their preparations for the exam students are expected to have read the syllabus well, to have worked seriously on the case assignment, and to be prepared to interpret SPSS printouts. The case assignment is handed out two weeks before the exam.

The whole textbook except chapters 8.5, 8.6, 14, 15 and 17 is required for the multiple choice exam, but there is little emphasis on ch. 5.

Evaluation code(s)
MET 80061 - multiple-choice exam which accounts for 100% of the grade in MET 8006, 6 ECTS credits

Aids at the examination

All aids are allowed, including the case assignment and the student's own case solution.

Support materials at written examinations are explained under exam information in our web-based student handbook. Please note use of calculator. http://www.bi.no/studenthandbook

Makeup exam
A makeup exam is held in every term.