Course description Advanced Quantitative Analyses

# SDU **\*** Advanced Quantitative Analyses

Study Board of BSc in Economics and Business Administration

Course ID: B100195401 ECTS value: 5 Teaching language: English EKA: B100195402 Censorship: Second examiner: None Date of Approval: 19-08-2022 Grading: 7-point grading scale Offered in: Soenderborg Offered in: Spring Duration: 1 semester Level: Bachelor Course ID B100195401 Course Title Advanced Quantitative Analyses • Teaching language English **-** ECTS value • Responsible study board Study Board of BSc in Economics and Business Administration Date of Approval 19-08-2022 Course Responsible Name Email Department Yingkui Yang yya@sam.sdu.dk Institut for Sociologi, Miljø- og Erhvervsøkonomi (00) • Offered in Soenderborg Level • Offered in Spring

Duration
 semester

## Recommended prerequisites

The course builds upon the competences that students have acquired in the part on Statistics in the course Mathematics and Statistics (the descriptive statistics part and hypothesis testing) and Marketing (theories of customer behavior, marketing decision making and collection of quantitative survey data).

Students are thus expected to have knowledge equivalent to those parts of the mentioned courses.

#### Aim and purpose

The overall purpose of the course is to give the student knowledge about and skills in converting quantitative data to information which can be used for decision making in a business economic context. By application of the statistical software SPSS, the student will acquire skills in application of simple and advanced techniques for analysis of data on business economic problems. Further, it is the aim that the student develops skills in interpretation of the results of statistical analyses and in presentation hereof in a way the displays their validity and relevance in a business context.

### - Content

Introduction: Repetition on essential topics on quantitative methods from the courses Mathematics and Statistics as well as Marketing.
 Data collection: Questionnaires, SurveyXact etc.
 Data preparation, creation of a statistical analysis plan and data analysis in the statistical software SPSS
 Analysis of relationships: Correlation, multiple regression and discriminant analysis
 Structural analysis including multiple item scales and validation: factor analysis and cluster analysis
 Conjoint analysis
 The analysis report.

#### Learning goals

The learning outcome of this subject is that the student independently can choose, carry out and report analysis of quantitative data within business economics.

The student should be able to demonstrate:

## Description of outcome - Knowledge

The student can account for

• the main methods for quantitative research, including the advantages and disadvantages of each method and the importance of triangulation

- question types and scaling
- sampling methods
- measurement problems in quantitative studies (reliability, validity and representativeness)
- basic procedures and important considerations in the design of research questions / hypotheses
  basic procedures and considerations in the preparation of a quantitative survey design
- simple and advanced analytical techniques, including their prerequisites and applications
- basic procedures and considerations in application of simple and advanced techniques for analysis of data.

#### Description of outcome - Skills The student can:

design relevant research questions / hypotheses for a problem within the field of business economics

- set up a questionnaire design that can provide quantitative data for solving the problem by application of the methods learnt in the course
- use the SurveyXact questionnaire program

• draw up a plan for analysis which can provide information for decision-making for a specific problem within business economics

- execute the analysis according to the planned techniques using the SPSS statistical package. As a part of this:
- · assess reliability and validity in questionnaires and survey data
- conduct control and quality assurance of a dataset

· report the completed analyses and results in a way that clearly shows the validity and relevance of the results for the problem defined

## Description of outcome - Competences

The student can

identify and verify the need for quantitative data to solve a defined problem related to business economics •reflect on the suitability of specific analytical techniques to the research questions and hypothesis •summarize the results of the analysis in a conclusion that clearly shows their implications for the defined problem

#### Example

-Analysis of Quantitative Survey Data, ISBN 9781800060524, Customised book with selected chapters from Naresh K. Malhotra, David F. Birks & Peter Wills: Marketing Research: An Applied Approach, 5. Edition, Pearson, 2021 (latest edition)

Janssens, W., Wijnen, K., De Pelsmacker, P., & Van Ken Hove, P. (2008). Marketing Research with SPSS. Harlow, England: Pearson Education Limited.

## Teaching Method

## See under Workload / Scheduled classes

#### **workload** Scheduled classes:

A total of 30 lessons (3 hours per week in 10 weeks) during the beginning of the semester (February – April). Group work with planned counselling in the following weeks in April and May. 30 minutes are allocated for counselling for each group (10 minutes for each consultation and in total 3 consultations). A statistical analysis plan for the project work must be prepared before counselling. The first counselling meeting takes place in the middle of April and the last two will be taken place in agreement with the supervisor. The counselling meeting can take place in person or online. Workload:

The activities for the course workload for an average student are structured as follows:

Participation in lessons: 30 hours

Preparation for lessons: 30 hours Preparation for counselling meetings: 3 hours (incl. preparations and following-up of the counselling meeting).

Work on report: 72 hours. Total: 135 hours

## + Examination regulations

### Exam

## Name

#### Exam

## **Timing**

Exam: June Reexam: August

## • Tests

## **-** Exam

- Name Exam
- + Form of examination Project report
- Censorship

Second examiner: None

## Grading

- 7-point grading scale
- Identification Student Identification Card - Date of birth
- Language English

## - Duration

Across the semester.

#### Length Extent

Max. 25 pages for 2 persons (excl. table of contents and appendices). Max. 30 pages for 3 persons (excl. table of contents and appendices). Max. 35 pages for 4 persons (excl. table of contents and appendices).

## Examination aids

All examination aids are permitted

#### Assignment handover Digital hand-out via "Digital Exam

### - Assignment handin

Digital submission via "Digital Exam"

Please note!! Both the written report and all relevant SPSS outputs for each assignment should be uploaded.

## **-** ECTS value

## Additional information

Supplemental information for the form of examination: The report must be prepared in groups of 2-4 students. The teacher can decide deviations. Although the students may begin their project work at the start of the semester, the workload is expected to be the highest in May. The contribution of each group member must appear clearly to enable individual grading.

The report must contain:

-A well-defined problem formulation in the field of business economics. The problem formulation should be focused and precise,

•An analysis plan •Presentation and interpretation of the analysis results,

•Conclusion. It must be clear how the results and conclusion reached as a result of statistical analysis.

For the re-exam a new assignment will be handed out. Duration: 3 weeks.

The assignment can be done individually or in groups of up to 4 students.

Max. 20 pages for 1 person (excl. table of contents and appendices). Max. 25 pages for 2 persons (excl. table of contents and appendices).

Max. 30 pages for 3 persons (excl. table of contents and appendices).

Max. 35 pages for 4 persons (excl. table of contents and appendices).

## **• EKA** B100195402

▼ External comment NOTE - This course is identical with the former course Odense: 8828501 Analysis of Quantative Survey Data (Advanced Quantitative Analysis) Sønderborg: 9069901 Advanced Quantative Analyses (Tools for Quantative Analyses II). Used examination attempts in the former identical course will be transferred. Courses that are identical with former courses that are passed according to applied rules cannot be retaken

## • Courses offered

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Courses offered					
Offer period	Offer type	Profile	Education	Semester	
URL for Skemaplan					
Sønderborg Show full time table					