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<tr>
<th><strong>Course title</strong></th>
<th>Quantitative Research Methods in Business Administration</th>
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<tr>
<td><strong>Coordinator(s)</strong></td>
<td>Prof. prof. dr. Hester van Herk</td>
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<td><strong>Lecturer(s)</strong></td>
<td>Prof. prof. dr. Hester van Herk</td>
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<td><strong>Study period</strong></td>
<td>April 2019 - May 2019</td>
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<td><strong>ECTS</strong></td>
<td>6 ECTS</td>
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<td><strong>Tuition</strong></td>
<td>€ 600</td>
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| **Course goals** | Upon successful completion of the course, students will:  
  - Have furthered their academic knowledge of quantitative survey research methods in business in general  
  - Have started to develop their knowledge of particular quantitative data analyses methods  
  - Be able to link concrete technologies and methodologies to research designs in quantitative methods  
  - Be able to critically evaluate the quality of the research design of a study  
  - Be able to evaluate the quality of quantitative data sources and methods for analysis  
  - Have practiced with the most common techniques in survey research, as shown below  
  - Have started developing their skills of communicating about research methods orally and in writing |
| **Content** | This course introduces several important topics in conducting quantitative survey research.  
  The course is preceded by an introduction to R in which the following topics are covered: read data, create and change variables, and conduct elementary manipulations.  
  - The course starts with the essentials of data analysis. Cleaning data is discussed, and strategies are provided on how you can deal with missing values. Topics such as missing at random, missing completely at random (MCAR) are introduced. Lastly, we discuss strategies how to deal with missing data: list wise deletion, pairwise deletion and imputation.  
  - The second week we present the general linear model. This serves as a framework for the simple and multiple regression analyses that have been introduced in earlier (Bachelor or Master) courses.  
  - The third week ANOVA and ANCOVA will be introduced.  
  - The fourth week, latent variables are introduced using factor analysis. Students will learn principal components analysis (PCA) and principal axis factoring (PAF) and practice with interpretation in class.  
  - In the fifth week, students will build upon what they learned in the preceding weeks and start using techniques such as confirmatory factor analysis (CFA) using the lavaan package in R. |
• In the sixth week, multilevel modelling will be introduced. The statistical challenges when dealing with nested data (e.g., employees nested in teams or consumers within countries) will be discussed. All the topics are illustrated in R and students will practice using all techniques themselves.

Form of tuition

Weekly: Two 2-hour lecture/tutorial per week (including computer lab). The teacher will present new concepts and explain how these analyses should be interpreted.

During the lecture exercises will be given so that students can immediately apply the methods and practice programming.

Assessment

• Two take-home assignments in which both an R-program is written to analyze survey-data and the results are interpreted (40%).

• A 2 hours 45 minutes individual written examination on interpreting research using the main techniques taught in class (60%).

Conditions to pass the course:
- The score for the individual examination and final grade must be 5.5 or higher.
- Attendance is mandatory. To pass the course, students cannot miss more than one class.

Resit:
- Students can only retake the individual exam.
- Results obtained for the assignments will remain valid for the resit.

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**Literature**


Yves Rosseel (2017). The lavaan tutorial. (online will be put on Canvas)

**NOTE:** It is preferable that students take a laptop with R installed to class.