

BSS premaster Statistics and Research Methodology

Design

The BSS premaster is a web-supported premaster, which allows students to eliminate deficiencies regarding Statistics and Research Methodology. The deficiencies are diagnosed by the admission committees of Psychology, Sociology or Pedagogy/Education of the Faculty of Behavioural and Social Sciences (BSS) of the University of Groningen, depending on the master study aimed at.

The programme is organized by SPO, the *Foundation of Training in Education of the University of Groningen*. The full Statistics and Research Methodology premaster programme consists of six courses, having a study load of 5 EC's each (30 EC's in total). The admission committee at hand will decide whether one should complete the full Statistics and Research Methodology premaster programme, or only parts thereof. In addition, it should be noted that some students might have to eliminate other deficiencies, not covered by this package. In such cases, the admission committee will indicate how to handle this.

The courses are designed for distance learning and require substantial self-tuition skills. In their home country students can follow online videos, do assignments, study the mandatory literature, do intermediate exams and engage in peer discussion at the digital learning environment of SPO.

The courses are scheduled in the first Semester of the Academic year (September-January). The duration of one course is about ten weeks. During the course the digital lectures and additional teaching materials and assignments are available and the lecturer will provide feedback on questions of students. The schedule can be found on the premaster program part of the SPO-website.

Master programs start in September. After completing the required course(s), students can use the period February-August to prepare their stay in Groningen, especially housing and VISA. Some master programs also start in February. If your stay in Groningen requires a VISUM starting in February is not realistic. Furthermore, especially in this case students have to take into account the difficulty of arranging housing in Groningen.

Registration

International students have to apply for a specific Master in Groningen. For more information see: <http://www.rug.nl/education/international-students/application-procedure/apply-programme/>.

Their application will be judged by the Central Admission Office of the University of Groningen and by the appropriate Admission Committee. If the Committee diagnoses a deficiency that can be eliminated by the remedial BSS premaster, the student is advised to follow a certain package of courses of this premaster programme. Students can register at the SPO website following this link: <https://dlo.spo-groningen.nl/register/>

Costs

The costs involved are € 171,67 for each course. The costs for a total programme of six courses (30 EC's) are €1030,02.

Concise course texts

- **Statistics I**

Statistics deals with summarizing the information in observed quantitative data (descriptive statistics) and with to what extent results from a sample can be generalized to a population of interest (inferential statistics). In this course, basic knowledge of descriptive statistics (mean, standard deviation, frequency, proportion and correlation) is assumed, and the focus is on inferential statistics. A general introduction into the basic reasoning underlying statistical inference is given, and the two most common procedures, significance testing and estimation with confidence intervals, are explained. Specific applications of these procedures are given for the simple situations of comparison of means and comparison of proportions.

Literature:

Statistical Concepts (4th ed.), Lomax, R. G., & Hahs-Vaughn, D. L., ISBN 978-0-415-88007-7.

- **Statistics II**

Along the same lines as in Statistics I, in this course inferential procedures are described for more complex comparisons of means, as well as for methods relating variables to each other. Specifically, in this course first the analyses of means in one-way and two-way designs are treated, using the ANOVA model. Next, the concept of correlation between variables, as well as the concepts of regression of one variable on one or more other variables (Multiple regression) are introduced and treated in depth, along with the associated inferential procedures.

Literature:

Statistical Concepts (4th ed.), Lomax, R. G., & Hahs-Vaughn, D. L., ISBN 978-0-415-88007-7.

Applying regression & correlation, Miles, J., & Shevlin, M., ISBN 978-0-7619-6230-4.

C.J. Albers (2016), Inference for Correlations. Will be provided at the start of the course.

- **Statistics III**

Continuing where Statistics II ended, this course discusses some new topics as well as some known topics in more depth. The main topics are: multiple regression and ANOVA (more in depth), nonlinear regression, ANCOVA and Repeated Measures ANOVA. Both theoretical and practical aspects of the statistical models are discussed.

Literature:

Statistical Concepts (4th ed.), Lomax, R. G., & Hahs-Vaughn, D. L., ISBN 978-0-415-88007-7.
Applying regression & correlation, Miles, J., & Shevlin, M., ISBN 978-0-7619-6230-4.

- **Research methods: theory and ethics**

This course introduces and deepens experimental design and data analysis. On the basis of case studies, pitfalls in design are discussed. Emphasis is placed on finding the appropriate design for a given research question, the practicalities of data handling, and the ethical responsibilities of the researcher.

Literature:

Custom publication from McGraw-Hill, comprising the first 9 chapters from “Essentials of Behavioral Research Methods” by Rosenthal and Rosnow (ISBN-13:9780073531960) and the 13th chapter from Shaughnessy, Zechmeister, and Zechmeister’s “Research Methods in Psychology” (ISBN-13: 9780071310970).

- **Test theory**

This course gives an overview of the central topics that are important for understanding how tests are developed and validated. Topics include: historical developments and applications of tests, the administration of tests, reliability and validity, and new developments in the field of test construction.

Literature:

Psychological testing: A practical introduction (3rd ed), Thomas P. Hogan, ISBN 978-1-118-55412-8.

Additional texts made available online

- **Qualitative research Methods**

Students will become familiar with the basic principles of qualitative research methods, methods of data collection (especially interviews, observation, analysis of documents and analysis of visual data) and data-analysis (especially grounded theory coding, content analysis, discourse analysis).

Literature

Flick, Uwe (2014). *An introduction to qualitative research*. Edition 5 (Los Angeles: Sage). Part 1-6 (476 pages).

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