Course Catalogue

for the Master’s Programme in Social and Economic Data Science

Summer Semester 2019

Version: 21/03/2019
Course Advice for Students of the
Master's Programme in Social and Economic Data Science

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Student Course Guidance:
Alessia Invernizzi
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Dates of the Summer Semester 2018

Lectures begin: Monday, 15th April 2019
Lectures end: Saturday, 20th July 2019

Registration period of the Department of Economics:

Exam registration period: 25th June – 01st July 2019
Examination period I: 11th July – 03rd August 2019

Exam registration period: 10th September - 16th September 2019
Examination period II: 4th October - 26th October 2019

Seminar registration period for
Winter Semester 2019/20: 25th June – 01st July 2019

Registration periods of the Department of Politics and Public Administration:

Exam registration period I: 01st May – 15th June 2019
Exam registration period II: 13th September – 18th September 2019
Exam Registration Periods of the Department of Computer and Information Science

Registration: Via StudIS

Registration periods:
Lectures – 1\textsuperscript{st} exams: tba
Lectures – 2\textsuperscript{nd} exams: tba
Seminars: tba

Exam Registration Periods of the Department of History and Sociology

Registration period (StudIS): 1\textsuperscript{st} May – 15\textsuperscript{th} June 2019

Exam Registration Periods of the Department of Mathematics and Statistics

Registration: Students are able to apply via StudIS up to seven days before the exam.

Exam Registration Periods of the Department of Psychology

Not yet online

Dates of the Winter Semester 2019/20

Lectures begin: Monday, 21\textsuperscript{st} October 2019
Lecture-free period: 21\textsuperscript{st} December, 2019 – 4\textsuperscript{th} January, 2020
Lectures end: Saturday, 15\textsuperscript{th} February 2020
1. Foundations of Data Science

Focus Area: Computer Sciences

Information Visualization I, 2+2 hours (6 ECTS)  
T. Polk  
Monday, 10:00 - 11:30, C 358  
Tutorials:  
Group I: Wednesday, 13:30 - 15:00, D 247  
Group II: Thursday, 11:45 - 13:15, D 201

Konzepte der Informatik, 4+2 hours (6 ECTS)  
B. Pampel  
Tuesday, 10:00 - 11:30, A 702  
Friday, 10:00 – 11:30, A 702  
Tutorials:  
Group I: Wednesday, 13:30 - 15:00, P 602  
Group II: Thursday, 17:00 – 18:30, P 602

Only in combination with:  
Programmierkurs I, 2+2 hours (6 ECTS)  
J. Fuchs  
Wednesday, 11:45 - 13:15, A 702  
Tutorials:  
Group I: Monday, 15:15 – 16:45, L 829  
Group II: Monday, 17:00 – 18:30, L 829  
Group III: Tuesday, 15:15 – 16:45, ML 630

Focus Area: Mathematics

Analysis und Lineare Algebra, 4+2 hours (9 ECTS)  
S. Kosub  
Wednesday, 10:00 - 11:30, R 513  
Thursday, 10:00 - 11:30, R 513  
5 Tutorials, for time and room see: ZEuS

Focus Area: Social Scientific Methods

Econometrics I, 4+2 hours (8 ECTS)  
W. Pohlmeier  
Thursday, 08:15 - 09:45, A 701  
Friday, 08:15 - 09:45, A 701  
7 Tutorials, for time and room see: ZEuS

Methoden II, 2 hours (5 ECTS)  
T. Kuhlmann  
Monday, 13:30 – 15:00, R 711
Focus Area: Statistics

Statistics I (Dept. of Economics), 2+2 hours (6 ECTS)  
Friday, 10:00 – 11:30, R 711  
R. Brüggemann

9 Tutorials, for time and room see: ZEuS

Statistics (Dept. of Politics and Public Administration), 4 hours (9 ECTS)  
S. Shikano

Tuesday, 15:15 – 16:45, R 712

Wednesday, 10:00 - 11:30, R 711

Statistik (Dept. of Sociology), 2+2 hours (7 ECTS)  
M. Buis

Monday, 10:00 – 11:30, A 702

or

Tuesday, 13:30 – 15:00, A 703

5 Tutorials, for time and room see: ZEuS

2. Advanced Methods: Computer Science

Big Data Management and Analysis, 2+2 hours (6 ECTS)  
M. Grossniklaus

Tuesday, 15:15 – 16:45, A 702

Tutorial: Wednesday, 17:00 – 18:30, A 702

Algorithmen und Datenstrukturen, 4+2 hours (9 ECTS)  
S. Storanndt

Monday, 10:00 – 11:30, M 629

Tuesday, 10:00 – 11:30, M 629

5 Tutorials, for time and room see: ZEuS

Only in combination with:

Programmierkurs II, 2 hours (3 ECTS)  
S. Storanndt

Monday, 15:15 – 16:45, A 703

Datenbanksysteme, 4+2 hours (9 ECTS)  
M. Scholl

Monday, 13:30 – 15:00, A 701

Tuesday, 11:45 – 13:15, A 701

5 Tutorials, for room and time see: ZEuS

3. Advanced Methods: Statistics

Probability Theory and Statistical Inference, 2+2 hours (8 ECTS)  
L. Grigoryeva

Monday, 08:15 – 09:45, C 424

Monday, 10:00 – 11:30, C 424

Microeconometrics, 3+2 hours (8 ECTS)  
W. Pohlmeier

Thursday, 10:00 – 11:30, F 425

Friday, 10:00 – 11:30, fortnightly, F 425

Tutorial: Monday, 15:15 – 16:45, G 300  
P. Heiler
Research Design II: Statistical Modelling and Inference in Quantitative Research, 2+2 hours (9 ECTS)  
Thursday, 10:00 – 11:30, A 704

Tutorials:
Wednesday, 15:15 – 16:45, BS 217  
Thursday, 15:15 – 16:45, BS 217

Applied Time Series Analysis, 3 hours (8 ECTS)  
Monday, 11:45 – 13:15, D 436  
Friday, 11:45 – 13:15, fortnightly, D 436

Tutorial: Friday, 11:45 – 13:15, fortnightly, D 436 + CIP Pool  
M. Daniele

4. Programming and Scripting

Data Analysis with R, (7 ECTS)  
Friday, 08:15 – 09:45, BS 217  
M. Herrmann

Datenanalyse mit R, (7 ECTS)  
Group A: Friday, 10:00 – 11:30, BS 217  
Group B: Friday, 13:30 – 15:00, BS 217  
M. Herrmann

Programmierkurs I, 2+2 hours (6 ECTS)  
Wednesday, 11:45 - 13:15, A 702  
J. Fuchs

Tutorials:
Group I: Monday, 15:15 – 16:45, L 829  
Group II: Monday, 17:00 – 18:30, L 829  
Group III: Tuesday, 15:15 – 16:45, ML 630

Programmierkurs II, 2 hours (3 ECTS)  
Monday, 15:15 – 16:45, A 703  
S. Storandt

5. Social Science Applications

Machine Learning, 2+1 hours (6 ECTS)  
tba  
L. Grigoryeva
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<td>Statistics / Shikano</td>
<td>Analysis and Lineare Algebra / Kosub</td>
<td>Statistics I / Brüggemann</td>
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<td>Algorithmen und Datenstrukturen / Storandt</td>
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PREVIEW WINTER SEMESTER 2019/20

1. Introduction to Computational Methods for the Social Sciences  K. Donnay

2. Foundations of Data Analysis

**Focus Area: Computer Sciences**
Information Visualisation, (6 ECTS)  N.N.

**Focus Area: Mathematics**
Diskrete Mathematik und Logik, (9 ECTS)  N.N.
Datenmathematik, (9 ECTS)  N.N.
Mathematik für Wirtschaftswissenschaftler, 4 + 2 hours (9 ECTS)  N.N.
Lineare Algebra, 4 + 2 hours (9 ECTS)  N.N.

**Focus Area: Statistics**
Statistik I (Dept. of Psychology), 2 + 2 hours (6 ECTS)  N.N.

**Focus Area: Social Scientific Methods**
Introduction to Survey Methodology, 2 + 2 hours (9 ECTS)  N.N.
Methoden der emp. Politik- und Verwaltungsforschung, 4 hours (9 ECTS)  N.N.
Empirie: Quantitative Methoden, 2 + 2 hours (6/7 ECTS)  N.N.
Research Design I, 2 + 2 hours (9 ECTS)  N.N.
Methoden I, (5 ECTS)  N.N.

2. Advanced Methods: Computer Science

Konzepte der Programmierung (6 ECTS) in combination with Programmierkurs III (6 ECTS)  N.N.

3. Advanced Methods: Statistics

Advanced Econometrics, 3 + 2 hours (10 ECTS)  N.N.
Advanced Time Series Analysis, (8 ECTS)  N.N.

4. Programming and Scripting

Data Analysis with R, (7 ECTS)  N.N.
Datenanalyse mit R, (7 ECTS)  N.N.
Programmierkurs I, (6 ECTS)  N.N.
Programmierkurs III, (6 ECTS)  N.N.