Course Catalogue

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

Summer Semester 2019

Version: 18/04/2019
Course Advice for Students of the
Master's Programme in Social and Economic Data Science

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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 – 1st exams: tba
Lectures – 2nd exams: tba
Seminars: tba

Exam Registration Periods of the Department of History and Sociology

Registration period (StudIS): 1st May – 15th 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, 21st October 2019
Lecture-free period: 21st December, 2019 – 4th January, 2020
Lectures end: Saturday, 15th 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)  
Tuesday, 15:15 – 16:45, R 712  
Wednesday, 10:00 - 11:30, R 711  
S. Shikano

Statistik (Dept. of Sociology), 2+2 hours (7 ECTS)  
Monday, 10:00 – 11:30, A 702  
or  
Tuesday, 13:30 – 15:00, A 703  
5 Tutorials, for time and room see: ZEuS  
M. Buis

2. Advanced Methods: Computer Science

Big Data Management and Analysis, 2+2 hours (6 ECTS)  
Tuesday, 15:15 – 16:45, A 702  
M. Grossniklaus

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

Algorithmen und Datenstrukturen, 4+2 hours (9 ECTS)  
Monday, 10:00 – 11:30, M 629  
Tuesday, 10:00 – 11:30, M 629  
S. Storandt

5 Tutorials, for time and room see: ZEuS

Only in combination with:

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

Datenbanksysteme, 4+2 hours (9 ECTS)  
Monday, 13:30 – 15:00, A 701  
Tuesday, 11:45 – 13:15, A 701  
M. Scholl

5 Tutorials, for room and time see: ZEuS

3. Advanced Methods: Statistics

Probability Theory and Statistical Inference, 2+2 hours (8 ECTS)  
Monday, 08:15 – 09:45, C 424  
Monday, 10:00 – 11:30, C 424  
L. Grigoryeva

Microeconometrics, 3+2 hours (8 ECTS)  
Thursday, 10:00 – 11:30, F 425  
Friday, 10:00 – 11:30, fortnightly, F 425  
W. Pohlmeier

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)  
M. Hermann  
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)  
R. Brüggemann  
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  

Machine Learning, 2+1 hours (6 ECTS)  
L. Grigoryeva  
Monday, 17:00 – 18:30, G 201  
Tutorial: Monday, 15:15 – 16:45, V 203  

4. Programming and Scripting  

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

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

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  

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

Summer School on Econometrics and Machine Learning (6 ECTS)  
L. Grigoryeva/ W. Pohlmeier

Sept. 22 - 29, 2019 in Anapa (Russia) on the Black Sea  
or alternatively in Konstanz:

17/10/19, 09:00-17:00, F425
18/10/19, 09:17:00, F425

The summer school is a joint endeavor of Plekhanov University, Moscow, and the University of Konstanz. Participation in the Summer School counts as a Master Seminar in Econometrics with 6 ECTS. Students who are not able to attend the Summer School have the opportunity to present their seminar paper in a block seminar in the first week of the lecture period of the Winter term (see above). Participation in the Summer School will be almost fully funded (travel expenses, room and board). A small participation fee (ca. 100 euro) will be charged though.

Introduction to Computational Social Science, 2 hours (7 ECTS)  
A. Jungherr
Thursday, 15:15 – 16:45, C 421

Neuere Theorien und Methoden der Wahlforschung, 2 hours (7 ECTS)  
S. Shikano
Tuesday, 10:00 – 11:30, C 424
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<td>8:15</td>
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<td>Econometrics I / Pohlmeier</td>
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<td>Information Visualization I / Polk</td>
<td>Konzepte der Informatik / Pampel</td>
<td>Statistics / Shikano</td>
<td>Analysis and Lineare Algebra / Kosub</td>
<td>Statistics I / Brügemann</td>
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<td>8:15 – 9:45</td>
<td>Probability Theory and Statistical Inference (L) / Grigoryeva</td>
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<td>Data analysis with R / Herrmann</td>
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<td>10:00 – 11:30</td>
<td>Algorithmen und Datenstrukturen / Storandt</td>
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<td>Microeconometrics (L) / Pohlmeier</td>
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<td>Probability Theory and Statistical Inference (T) / Grigoryeva</td>
<td>Neuere Theorien und Methoden der Wahlforschung (S) / Shikano</td>
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<td>Research Design II (L) / Herrmann</td>
<td>Datenanalyse mit R / Herrmann</td>
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<td>Applied Time Series (L) / Brüggemann</td>
<td>Datenbanksysteme (L) / Scholl</td>
<td>Programmierkurs I / Fuchs</td>
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<td>13:30 – 15:00</td>
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<td>Datenanalyse mit R / Herrmann</td>
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<td>15:15 – 16:45</td>
<td>Programmierkurs II / Storandt</td>
<td>Big Data Management and Analysis (L) / Grossniklaus</td>
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<td>Introduction to Computational Social Science (S) / Jungherr</td>
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<td>Microeconometrics (T) / Heiler</td>
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<td>Machine Learning (L) / Grigoryeva</td>
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<td>Big Data Management and Analysis (T) / Grossniklaus</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 Vizualisation, (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.