Course Catalogue

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

First Year/Second Year

Winter Semester 2019/2020

Version: 01/10/2019
Course Advice for Students of the
Master's Programme in Social and Economic Data Science

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Email: seds.msc@uni-konstanz.de

Dates of the Winter Semester 2019/2020

Welcome Programme for new Master's students Monday, 14th October 2019, 14:00
Lectures begin: Monday, 21st October 2019
Lecture-free period: Friday, 23rd December 2019 – Friday, 3rd January 2019
Lectures end: Friday, 15th February 2019

Registration period of the Department of Economics:

Seminar registration period for Winter Semester 2019: Tuesday, 25th June - Monday, 01st July 2019

Seminar registration period for Summer Semester 2020: Tuesday, 21st January – Monday, 27th January 2020

Exam Registration period: Tuesday, 21st January – Monday, 27th January 2020
Examination period I: Wednesday, 12th February – Saturday, 29th February 2020

Exam Registration period: Tuesday, 17th March – Monday, 23rd March 2020
Examination period II: Saturday, 28th March– Saturday, 18th April 2020


Registration period of the Department of Politics and Public Administration:

Registration period II: 16.03.2020 – 20.03.2020
Examination Dates: https://www.polver.uni-konstanz.de/service/formalitaeten/fristen-und-termine/
Exam Registration Periods of the Department of Computer and Information Science

Registration: via StudIS or with the offline-registration-form within the registration period
Reg. Period I (lectures): tba
Reg. Period II (lectures): tba
Examination dates, etc: https://www.informatik.uni-konstanz.de/en/service-and-support/examinations/exam-registration/

Exam Registration Periods of the Department of History and Sociology

Registration period (StudIS): Summer semester: 01st May – 15th June
Winter semester: 01st December – 15th January
https://www.soziologie.uni-konstanz.de/en/study/ba-sociology/study-organisation/deadlines/

Exam Registration Periods of the Department of Mathematics and Statistics

Registration: Students can apply up to one week before the exam.
Examination office: www.mathematik.uni-konstanz.de/beratung-und-service/pruefungsverwaltung/

Exam Registration Periods of the Department of Psychology

Examination dates: https://www.psychologie.uni-konstanz.de/beratung-und-service/formulare-und-downloads/bachelor/
Examination office (Lydia Dreher): https://www.psychologie.uni-konstanz.de/beratung-und-service/ansprechpartner/
PREPARATION COURSES for new master’s students  
(free of charge, no registration necessary)

Department of Economics:

PREP 1: Advanced Econometrics (Duration: 5 days)  
W. Pohlmeier  
Tuesday, 10/10/19, 13:30-16:45, F 420  
Friday, 11/10/19, 13:30-16:45, G 227  
Monday, 14/10/19, 13:30-16:45, G 201  
Tuesday, 15/10/19, 13:30-16:45, G 201  
Wednesday, 16/10/19, 13:30-16:45, G 201  
See ZEuS: https://zeus.uni-konstanz.de:443/hioserver/pages/startFlow.xhtml?flowId(detailView-flow&unitId=4001&periodId=180

PREP 2: Quantitative Methods in Economics (Duration: 5 days)  
J. Alasalmi  
Thursday, 17/10/19, 10:00 - 16:45, K 503  
Friday, 18/10/19, 10:00 - 16:45, K 503  
Monday, 21/10/19, 11:45 - 16:45, G 227a  
Tuesday, 22/10/19, 11:45 - 16:45, G 227a  
Wednesday, 23/10/19, 11:45 - 16:45, G 227a  
See ZEuS: https://zeus.uni-konstanz.de:443/hioserver/pages/startFlow.xhtml?flowId(detailView-flow&unitId=4003&periodId=180

Department of Computer Sciences:

Kompaktkurs Mathematik 1  
S. Kosub  
(Duration 5 days, german only)  
See ZEuS: https://zeus.uni-konstanz.de/hioserver/pages/cm/exa/coursemanagement/basicCourseData.xhtml?flowId(searchCourseNonStaff-flow&flowExecutionKey=e11s4

Java Crash Course (Duration 3 days)  
F. Götz-Hahn  
Thursday, 10/10/19, 10:00 – 17:00, D 247  
Friday, 11/10/19, 10:00 – 17:00, D 247  
Monday, 14/10/19, 10:00 – 17:00, D 247  
See ZEuS: https://zeus.uni-konstanz.de:443/hioserver/pages/startFlow.xhtml?flowId(detailView-flow&unitId=16261&periodId=180
First Semester

1. Introduction to Computational Methods for the Social Sciences

Introduction to Computation for the Social Sciences (9 ECTS)  K. Donnay
Monday, 11:45 – 13:15, F 428
Tutorial:
Wednesday, 10:00 – 11:30, D 301

Please note: In preparation for “Introduction to Computation for the Social Sciences" we advise all new MSc SEDS Students to take the Python Block Course in October (see page 8).

2. Foundations of Data Science

Computer Science

Information Visualization II (6 ECTS)  D. Keim / J. Fuchs
Thursday, 10:00 – 11:30, D 247
Tutorial:
Thursday, 15:15 – 16:45, D 247

Data Mining: Basic Concepts (6 ECTS)  J. Fuchs / D. Keim
Tuesday, 11:45 – 13:15, R 511
Tutorial:
Group A: Thursday, 10:00 – 11:30, L 601
Group B: Thursday, 13:30 – 15:00, L 601

Analyse und Visualisierung von Informationen (9 ECTS)  D. Keim / J. Fuchs
Monday, 13:30 – 15:00, A 703
Tuesday, 11:45 – 13:15, A 701
Tutorial:
Group A: Thursday, 10:00 – 11:30, L 601
Group B: Thursday, 13:30 – 15-00, L 601

Please note: “Analyse und Visualisierung von Informationen" (german only) is an alternative to “Information Visualization II" and “Data Mining: Basic Concepts"

Konzepte der Informatik (6 ECTS)  B. Pampel
Monday, 13:30 – 15:00, A 701
Tuesday, 13:30 – 15:00, A 701
Tutorial:
Six groups, see ZEUS

Only in combination with

Programmierkurs I (Imperative Sprache) (6 ECTS)  J. Fuchs
Tuesday, 15:15 – 16:45, A 703
Tutorial:
Six groups, see ZEuS
Mathematics

Diskrete Mathematik und Logik (9 ECTS)  S. Kosub
Wednesday, 10:00 – 11:30, R 513
Thursday, 10:00 – 11:30, R 513
Tutorial: Six groups, see ZEuS

Lineare Algebra I (6+3 ECTS)  S. Kuhlmann
Monday, 10:00 – 11:30, R 712
Thursday, 10:00 -11:30, R 712
Tutorial: tba

Mathematik für Wirtschaftswissenschaftler I (9 ECTS)  J. Schropp
Monday, 08:15 – 09:45, A 600
Thursday, 10:00 – 11:30, A 600
Tutorial: 15 Groups, see ZEuS

Datenmathematik  S. Kosub
Tuesday, 15:15 – 16:45, R 712
Thursday, 13:30 – 15:00, R 513
Tutorial: 4 Groups, see ZEuS

Social Science Methods

Introduction to Survey Methodology (6+3 ECTS)  P. Selb
Thursday, 11:45 – 13:15, A 702
Tutorial: Wednesday, 11:45 – 13:15, C 358

Research Design I: Research Design and Causal Inference (9 ECTS)  P. Selb
Tuesday, 11:45 – 13:15, R 712

Empirical Research Methods (9 ECTS)  S. Shikano
Tuesday, 15:15 – 16:45, A 600
Wednesday, 8:15 - 9:45, A 600

Empirie: Quantitative Methoden (6 ECTS)  T. Wöhler
Thursday, 15:15 – 16:45, A 701
Tutorial: 5 groups, see ZEuS

Methoden I (5 ECTS)  UD. Reips
Monday, 13:30 – 15:00, R 711
Tutorial: Monday, 15:15 - 16:45, R 711
Statistics

Statistics I (6 ECTS) Y. Shevchenko
Tuesday, 11:45 – 13:15, R 513

Tutorial:
Wednesday, 11:45 – 13:15, R 513
Third Semester

1. Advanced Methods: Computer Science

**Konzepte der Programmierung** (6 ECTS)  
M. Grossniklaus  
Tuesday, 08:15 – 9:45, A 702  
Wednesday, 08:15 – 9:45, A 703

Tutorial:  
4 Groups, see ZEuS

Only in combination with

**Programmierkurs III (Deklarative Sprache)** (6 ECTS)  
L. Wörteler  
Tuesday, 13:30 – 15:00, A 704

2. Advanced Methods: Statistics

**Advanced Econometrics** (10 ECTS)  
W. Pohlmeier  
Wednesday, 08:15 – 09:45, A 704  
Friday, 08:15 – 09:45, A 704

Please note: the tutorials take place before the first lecture!

Tutorial:  
Group A:  
Monday, 15:15 – 16:45, G 300, begins 21/10/2019  
L. Shkoza /  
G. Fechteler /  
C. Mücher

Group B:  
Tuesday, 24/10/19, 13.30-15.00, G 227  
From Tuesday 28/10/19: 13.30-15.15, G 227a  
L. Shkoza /  
G. Fechteler /  
C. Mücher

3. Programming and Scripting

**Python Block Course** (6 ECTS)  
S. Scholz / et al.  
Monday, 14/10/2019, 10:00 – 13:15, G 227a  
Tuesday, 15/10/2019, 10:00 – 13:15, G 227a  
Wednesday, 16/10/2019, 10:00 – 13:15, G 227a  
Thursday, 17/10/2019, 10:00 – 13:15, G 227a  
Friday, 18/10/2019, 10:00 – 13:15, G 227a

Please note:  
This course is recommended as preparation for “Introduction to Computation for the Social Sciences”. The obligatory registration for this course will be open from 02/09/2019 – 20/09/2019.

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

**Datenanalyse mit R** (7 ECTS, German)  
M. Herrmann  
Thursday, 10:00 – 11:30, BS 217
Programmierkurs I (Imperative Sprache) (6 ECTS)  J. Fuchs
Tuesday, 15:15 – 16:45, A 703

Tutorial:
Six groups, see ZEuS

Programmierkurs III (Deklarative Sprache) (6 ECTS)  L. Wörteler
Tuesday, 13:30 – 15:00, A 704

4. Social Science Applications

Computational Social Science Seminar (7 ECTS)  K. Donnay
Monday, 10:00 – 11:30, G 306

Political Conflict in the Digital Age (7 ECTS)  P. Lutscher
Thursday, 08:15 – 9:45, D 201
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<th>Time</th>
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<tr>
<td>8:15 – 9:45</td>
<td>Optional German Course</td>
<td>Empirical Research Methods (L) / Shikano</td>
<td>Optional German Course</td>
<td>Information Visualization II (L) / Keim</td>
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<td>Mathematik für Wirtschaftswissenschaftler I (L) / Schropp</td>
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<td>Data Mining Basci Concepts (T) / Fuchs/Keim Group A</td>
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<td>10:00 – 11:30</td>
<td>Lineare Algebra (L) / Kuhlmann</td>
<td>Introduction to Computation for the Social Sciences (T) / Donnay</td>
<td>Diskrete Mathematik und Logik (L) / Kosub</td>
<td>Analyse und Visualisierung (T) / Group A</td>
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<td>13:30 – 15:00</td>
<td>Analyse und Visualisierung von Informationen (L) / Keim</td>
<td>Konzepte der Informatik (L) / Pampel</td>
<td>Datenmathematik (L) / Kosub</td>
<td>Data Mining Basic Concepts (T) / Fuchs/Keim Group B</td>
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Timetable Foundations of Data Science Winter Semester 2019/2020
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<tr>
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<td>Methoden I (T) / Reips</td>
<td>Programmierkurs I (L) / Fuchs Datenmathematik (L) / Kosub Empirical Research Methods (L) / Shikano</td>
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L = Lecture, T = Tutorial, S = Seminar
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<td>Konzepte der Programmierung (L) / Grossniklaus</td>
<td>Advanced Econometrics (L) / Pohlmeier</td>
<td>Data Analysis with R (S) / Herrmann</td>
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