Course Catalogue

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

First Year/Second Year

Winter Semester 2020/2021

Version: 21/10/2020
Course Advice for Students of the
Master's Programme in Social and Economic Data Science

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Dates of the Winter Semester 2020/2021

Welcome Programme for new Master’s students
Lectures begin: Monday, 26th October 2020, 13:30 – 14:30, D 434
Lecture-free period: Thursday, 24th December 2020 – Wednesday, 6th January 2021
Lectures end: Saturday, 13th February 2021

Registration period of the Department of Economics:

Seminar registration period for Winter Semester 2020: Tuesday, 30th June - Monday, 06th July 2020
Seminar registration period for Summer Semester 2021: Tuesday, 19th January – Monday, 25th January 2021
Exam Registration period: Tuesday, 19th January – Monday, 25th January 2021
Examination period I: Wednesday, 10th February – Saturday, 28th February 2021
Exam Registration period: Tuesday, 16th March – Monday, 22nd March 2021
Examination period II: Saturday, 27th March – Saturday, 17th April 2021


Registration period of the Department of Politics and Public Administration:

Exam and Seminar Registration period I: 01/12/2020 – 15/01/2021
Registration period II: 16/03/2021 – 20/03/2021
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 ZEuS or with the offline-registration-form within the registration period
Reg. Period II (lectures): t.b.a.
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 (ZEuS): 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: t.b.a.
https://www.psychologie.uni-konstanz.de/studieren/pruefungen-krankheit/
Examination office (Serpil Hummel): https://www.psychologie.uni-konstanz.de/beratung-und-service/ansprechpartner/
PREPARATION COURSES for new master’s students  
(free of charge)

Department of Economics:

PREP 1: Econometrics (Video lectures and Q&A sessions) W. Pohlmeier
See here

PREP 2: Quantitative Methods in Economics (Intro and 4 Q&A sessions) J. Alasalmi
Thursday, 1/10/20, 14:00 - 14:30, Intro  
Monday, 12/10/20, 14:00 - 15:30, Q&A meeting I  
Tuesday, 20/10/20, 14:00 - 15:30, Q&A meeting II  
Monday, 26/10/20, 14:00 - 15:30, Q&A meeting III  
Friday, 30/10/20, 14:00 - 15:30, Q&A meeting IV
See here

Department of Computer Sciences:

Kompaktkurs Mathematik 1 (Duration: 5 days, online, German only) N. Willenborg
Monday, 19/10/20, 13:00 – 16:00  
Tuesday, 20/10/20, 10:00 – 16:00  
Wednesday, 21/10/20, 10:00 – 16:00  
Thursday, 22/10/20, 10:00 – 13:30, findet voraussichtlich in Präsenz statt, A 600  
Friday, 23/10/20, 10:00 – 16:00
See ZEuS

Python Block Course see below on page 8 !
First Semester

1. Introduction to Computational Methods for the Social Sciences

Introduction to Computation for the Social Sciences (9 ECTS)  
J. Brendel  
Monday, 08:15 – 09:45, D 434  
Tutorial:  
Friday, 10:00 – 11:30, R 712  
F. Weeber/  
D. Färber

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

Data Mining: Basic Concepts (6 ECTS)  
J. Fuchs / D. Keim  
Thursday, 11:45 – 13:15, A 701 or online  
Tutorial:  
Group A: Monday, 10:00 – 11:30, H 306 or online  
Group B: Monday, 13:30 – 15:00, A 704 or online  
Group C: Tuesday, 15:15 – 16:45, Y 311 or online

The course “Data Visualisation: Basic Concepts” will be offered during the summer semester.

Konzepte der Informatik (6 ECTS)  
B. Pampel  
Monday, 10:00 – 11:30, online  
Tuesday, 10:00 – 11:30, online  
Tutorial:  
Six groups, see ZEUS

Only in combination with

Programmierkurs I (Imperative Sprache) (6 ECTS)  
J. Fuchs  
Tuesday, 13:30 – 15:00, online  
Tutorial:  
Six groups, see ZEuS
Mathematics

Diskrete Mathematik und Logik (9 ECTS) S. Kosub
Wednesday, 10:00 – 11:30, online
Thursday, 10:00 – 11:30, online

Tutorial:
Six groups, see ZEuS

Lineare Algebra I (6+3 ECTS) Hybrid-Vorlesung C. Scheiderer
Group 1: Monday, 10:00 – 11:30, A 600
Group 2: Thursday, 11:45 – 13:15, A 600

Tutorial: t.b.a.

Mathematik für Wirtschaftswissenschaftler I (9 ECTS) J. Schropp
Thursday, 08:15 – 09:45, A 600
Friday, 11:45 – 13:15, A 600

Tutorial:
15 Groups, see ZEuS

Datenmathematik (9 ECTS) S. Kosub
Tuesday, 15:15 – 16:45, online
Thursday, 13:30 – 15:00, online

Tutorial:
4 Groups, see ZEuS

Social Science Methods

Introduction to Survey Methodology (6+3 ECTS) P. Selb
Thursday, 11:45 – 13:15, online

Tutorial:
t.b.a.

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

Empirical Research Methods (9 ECTS) S. Shikano
Tuesday, 15:15 – 16:45, online
Wednesday, 10:00 - 11:30, online

Empirie: Quantitative Methoden (6 ECTS) B. Combet
Thursday, 11:45 – 13:15, online

Tutorial:
5 groups, see ZEuS

Methoden I (5 ECTS) UD. Reips
Monday, 13:30 – 15:00, online

Tutorial:
Monday, 15:15 - 16:45, online
Statistics

Statistik 1 (6 ECTS)  
Tuesday, 11:45 – 13:15, online  
Y. Shevchenko

Tutorial:  
Wednesday, 11:45 – 13:15, online

Third Semester

1. Advanced Methods: Computer Science

Konzepte der Programmierung (6 ECTS)  
M. Grossniklaus
Tuesday, 08:15 – 9:45, online  
Wednesday, 08:15 – 9:45, online

Tutorial:  
4 Groups, see ZEuS

Only in combination with

Programmierkurs III (Deklarative Sprache) (6 ECTS)  
L. Wörteler
Wednesday, 13:30 – 15:00, A 701

Machine Learning and AI for Data Science (6 ECTS)  
M. Berthold
Tuesday, 17:00 – 18:30, online  
Thursday, 17:00 – 18:30, online

2. Advanced Methods: Statistics

Advanced Econometrics (10 ECTS)  
W. Pohlmeier
Lecture will be uploaded on Ilias every Monday

Tutorial: Advanced Econometrics, 2 hours  
Tutorials are held online, dates are announced on the website of Prof. Dr. Pohlmeier

Live Q&A: Thursday, 17:00 – 18:00, online via Zoom

Statistical Learning (5 ECTS)  
L. Grigoryeva
Monday, 10:00 – 11:30, online  
Prerequisite: Course “Machine Learning”  
See ZEuS
3. Programming and Scripting

**Python Block Course** (6 ECTS) – 5 days
October 2020, 26/10/20 – 30/10/20, online
Details via email to all participants.

Please note:
This course is recommended as preparation for “Introduction to Computation for the Social Sciences”.

**Data Analysis with R** (7 ECTS, English)
Thursday, 08:15 – 09:45, online

**Datenanalyse mit R** (7 ECTS, German)
Thursday, 15:15 – 16:45, online

**Programmierkurs I (Imperative Sprache)** (6 ECTS)
Tuesday, 13:30 – 15:00, online

Tutorial:
Six groups, see ZEuS

**Programmierkurs III (Deklarative Sprache)** (6 ECTS)
Wednesday, 13:30 – 15:00, A 701

4. Social Science Applications

**Web Data Collection with R** (7 ECTS, Dept. Politics and Public Admin.)
Wednesday, 11:45 – 13:15

**Wahlsystemforschung** (6 ECTS, Dept. Politics and Public Admin.)
Tuesday, 11:45 – 13:15

**The Political Economy of Electoral Accountability**
(6 ECTS, Dept. Politics and Public Admin.)
Thursday, 13:30 – 15:00

**Internet Control in Autocracies**
(6 ECTS, Dept. Politics and Public Admin.)
Tuesday, 13:30 – 15:00

**People Analytics and Evidenzbasiertes Personalmanagement**
(6 ECTS, Dept. Politics and Public Admin.)
Monday, 11:45 – 13:15

**Create Internet-based experiments, conduct Big Data research, write articles**
(4 ECTS, Dept. Psychology) – 4 days
Monday, 26/10/2020, 11:00 – 17:00, C 336
Tuesday, 27/10/2020, 11:00 – 17:00, C 336
Wednesday, 28/10/2020, 11:00 – 17:00, C 336
Friday, 05/02/2021, 13:30 – 18:00, E 404

All seminars listed above are examples for seminars for the Module Social Science Applications. But as usual it is up to every SEDS student to search in ZEuS for other seminars/lectures that can be recognised within the Advanced Modules.
For questions regarding seminars/lectures please proceed as follows:

- Check if your desired seminar/lecture is listed in the MSc SEDS Additional Course /Seminar list.
- If not, send an email to the Principal Investigator of the participating Department to clarify if the seminar/lecture is suitable in one of the advanced modules.

Please note: Because of the Covid-19 situation we highly recommend contacting the lecturers of the seminars prior to the start of the semester to make sure that there are spots for MSc SEDS students available.
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<th>Time</th>
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<td>9:45</td>
<td>Introduction to Computation for the Social Sciences (L) / Brendel</td>
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<td>Mathematik für Wirtschaftswissenschaftler I (L) / Schropp</td>
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<td>10:00 –</td>
<td>Konzepte der Informatik (L) / Pampel</td>
<td>Konzepte der Informatik (L) / Pampel</td>
<td>Diskrete Mathematik und Logik (L) / Kosub</td>
<td>Diskrete Mathematik und Logik (L) / Kosub</td>
<td>Introduction to Computation for the Social Sciences (T) / Weeber/Färber</td>
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<td>11:30</td>
<td>Data Mining Basic Concepts (T) / Fuchs/Keim Group A</td>
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<td>Empirical Research Methods (L) / Shikano</td>
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<td>Research Design I: Research Design and Causal Inference (L) / Selb</td>
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<td>Data Mining Basic Concepts (T) / Fuchs/Keim Group B</td>
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<td>8:15 – 9:45</td>
<td>Advanced Econometrics (T) / Pohlmeier Group B</td>
<td>Konzepte der Programmierung (L) / Grossniklaus</td>
<td>Advanced Econometrics (L) / Pohlmeier</td>
<td>Data Analysis with R (S) / Herrmann</td>
<td>Advanced Econometrics (L) / Pohlmeier</td>
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