

# MSc Social and Economic Data Science

## Course Catalogue Summer semester 2022

(Version: 1 April, 2022)

### **Postal address**

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### **Course Advice for Students of the Master's Programme in Social and Economic Data Science**

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Website: [www.uni-konstanz.de/seds](http://www.uni-konstanz.de/seds)  
Office Hours:  
Tuesday, 10-12 AM, online via [zoom](#)  
Thursday, 2-3 PM, onsite (by appointment)

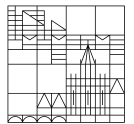
### **Student Course Guidance**

Orr Borin  
Email: [seds.msc@uni-konstanz.de](mailto:seds.msc@uni-konstanz.de)

## Dates of the Summer Semester 2022

Start of term	01.04.2022
End of term	30.09.2022
Beginning of lectures summer semester 2022	11.04.2022
End of lectures	23.07.2022
Lecture-free period around Pentecost	13.06. – 19.06.2022
Exam registration period I (July/August) Department of Economics	28.06. – 05.07.2022
Examination period I Department of Economics	14.07. – 06.08.2022
Exam registration period II (October) Department of Economics	13.09. – 20.09.2022
Examination period II Department of Economics	04.10. – 29.10.2022
Exam registration period I Department of Politics and Public Administration	01.05. – 15.06.2022
Exam registration period II Department of Politics and Public Administration	12.09. – 16.09.2022
Exam registration period I Department of Computer and Information Science	tba
Exam registration period II Department of Computer and Information Science	tba
Exam registration period I Department of History and Sociology	01.05.- 15.06.2022
Exam registration Department of Mathematics and Statistics	Seven days before the exam via ZEuS
Exam registration period I Department of Psychology	tba
Beginning of lectures winter semester 2022/23	24.10.2022
Lecture-free period	24.12 – 08.01.2023
End of lectures	11.02.2023

Further information regardin semester dates can be found [here](#).



# 1. Foundations of Data Science

## Focus Area: Computer Sciences

### Data Visualization Basic Concepts, 2+2 hours (6cr)

Monday, 10:00 – 11:30, R511

Tutorial (2hours), 3 groups

See: [ZEuS](#)

J. Fuchs/ D.  
Keim

Group I	Wed	15:15	till	16:45	Weekly	ZT1202
Group II	Thu	13:30	till	15:00	Weekly	ZT1202
Group III	Thu	15:15	till	16:45	Weekly	ML630

### Konzepte der Informatik, 4+2 hours (6cr)

Monday, 10:00 - 11:30, A702

Tuesday, 10:00 – 11:30, R513

(recorded lectures on ILIAS)

See: [ZEuS](#)

Tutorial (2 hours), 3 groups

B. Pampel

Group I	Fri	08:15	till	09:45	Weekly	C424
Group II	Fri	11:45	till	13:15	Weekly	M628
Group III	Fri	13:30	till	15:00	Weekly	C424

*Only in combination with:*

### Programmierkurs I, 2+2 hours (6cr)

Tuesday, 15:15 - 16:45, A702

See: [ZEuS](#) (registration via ILIAS mandatory)

Tutorials (2 hours), 4 groups

J. Fuchs

Group I	Thu	13:30	till	15:00	Weekly	M628
Group II	Thu	15:15	till	16:45	Weekly	M628
Group III	Fri	10:00	till	11:30	Weekly	M628
Group IV	Fri	11:45	till	13:15	Weekly	P602

## Focus Area: Mathematics

### Analysis und Lineare Algebra, 4+2 hours (9cr)

Wednesday, 10:00 - 11:30, R513

Thursday, 10:00 - 11:30, R513

See: [ZEuS](#)

Tutorial (2 hours), 5 groups

S. Kosub

Group I	Wed	13:30	till	15:00	Weekly	P603
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Group II	Wed	15:15	till	16:45	Weekly	P603
Group III	Wed	17:00	till	18:30	Weekly	P603
Group IV	Thu	08:15	till	09:45	Weekly	F424
Group V	Thu	11:45	till	13:15	Weekly	M630

### Focus Area: Scientific Methods

#### **Econometrics I**, 3+2 hours (8cr)

W. Pohlmeier

Thursday, 08:15 – 09:45, R513

Friday, 08:15 - 09:45, A701

See: [ZEuS](#)

Group I	Thu	15:15	till	16:45	Weekly	R512
Group II	Fri	10:00	till	11:30	Weekly	G201

### Focus Area: Statistics

#### **Statistics I (Dept. of Economics)**, 2+2 hours (6cr)

R. Brüggemann

Friday, 10:00 – 11:30, R711

+ Three single dates

See: [ZEuS](#)

Tutorial (2 hours), 7 groups, see [ZEuS](#)

Group I	Mon	08:15	till	09:45	Weekly	C358
Group II	Mon	10:00	till	11:30	Weekly	G530
Group III	Thu	08:15	till	09:45	Weekly	G309
Group IV	Thu	11:45	till	13:15	Weekly	G530
Group V	Wed	10:00	till	11:30	Weekly	G530
Group VI	Thu	15:15	till	16:45	Weekly	G530
Group VII	Thu	17:00	till	18:30	Weekly	E404

#### **Statistik (Dept. of Sociology)**, 2+2 hours (7cr)

M. Buis

Monday, 11:45 – 13:15, R712

Tutorial (2 hours), 6 groups

See: [ZEuS](#)

Group I	Tue	10:00	till	11:30	weekly	A703
Group II	Wed	10:00	till	11:30	weekly	K503
Group III	Wed	15:15	till	16:45	weekly	G300
Group IV	Thu	08:15	till	09:45	weekly	E403
Group V	Thu	08:15	till	09:45	weekly	D436
Group VI	Fri	10:00	till	11:30	weekly	D406

**Statistics (Dept. of Political Science)**, 2+2 hours, (9cr)  
 Tuesday, 15:15 – 16:45, R712  
 Wednesday, 08:15 – 09:45, R712  
 See: [ZEuS](#)

S. Shikano

## **2. Advanced Methods: Computer Science**

**Big Data Management and Analysis**, 2+2 hours (6cr)  
 Wednesday, 08:15 – 9:45, R511 (also subscribe on ILIAS!)  
 See: [ZEuS](#)  
 Tutorial (2 hours), 1 group

M.Grossniklaus

Group I	Wed	10:00	till	11:30	weekly	R511
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**Algorithmen und Datenstrukturen**, 4+2 hours (9cr)  
 Monday, 10:00 – 11:30, M629  
 Tuesday, 15:15 – 16:45, M629  
 See: [ZEuS](#)  
 Tutorial (2 hours), 4 groups

S. Storandt

Group I	Thu	08:15	till	09:45	weekly	C424
Group II	Thu	11:45	till	13:15	weekly	C424
Group III	Thu	13:30	till	15:00	weekly	C424
Group IV	Thu	15:15	till	16:45	weekly	C424

*Only in combination with:*

**Programmierkurs II**, 2 hours (3cr)  
 day, 15:15 – 16:45, A701  
 See: [ZEuS](#)

S. Storandt Mon-

**Datenbanksysteme**, 4+2 hours (9cr)  
 Monday, 13:30 – 15:00, A701  
 Tuesday, 13:30 – 15:00, R513  
 See: [ZEuS](#) (ILIAS hybrid)  
 Tutorial (2 hours), 5 groups

M. Grossniklaus

Group I	Wed	11:45	till	13:15	weekly	ZT702
Group II	Wed	13:30	till	15:00	weekly	P602
Group III	Wed	15:15	till	16:45	weekly	E402
Group IV	Fri	10:00	till	11:30	weekly	ZT702
Group V	Fri	13:30	till	15:00	weekly	ZT702

**Document Analysis: Computational Methods**, 2+2 hours (6cr)  
 Thursday, 11:45 – 13:15, A704  
 See: [ZEuS](#)  
 Tutorial (2 hours), 3 groups

A.Spitz

Group I	Tue	10:00	till	11:30	weekly	ZT1202
Group II	Tue	11:45	till	13:15	weekly	M630
Group III	Wed	13:30	till	15:00	weekly	ZT1202

**Graph Data Management and Analysis**, 2+2 hours (6cr)

Friday, 13:30 – 15:00 (online, flipped classroom)

M. Grossniklaus/  
T. Chondrogiannis

See: [ZEuS](#)

Group I	Tue	10:00	till	11:30	weekly	ZT702
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**Data Visualization Basic Concepts**, 2+2 hours (6cr)

Monday, 10:00 – 11:30, R511

Tutorial (2hours), 3 groups

J. Fuchs/ D.  
Keim

See: [ZEuS](#)

Group I	Wed	15:15	till	16:45	Weekly	ZT1202
Group II	Thu	13:30	till	15:00	Weekly	ZT1202
Group III	Thu	15:15	till	16:45	Weekly	ML630

**Introduction to Machine Learning**, 2+2 hours (6cr)

Monday, 13:30 – 15:00, R513

T. Sutter/ M. Rupp

See: [ZEuS](#)

Tutorial (2 hours), 2 groups

Group I	Tue	17:00	till	18:30	weekly	A702
Group II	Fri	10:00	till	11:30	weekly	A701

**Multimedia Retrieval: Basic Concepts**

2+1 hours (6+3 ECTS)

D. Keim

Tuesday, 13:30 – 15:00, ZT1202

See: [ZEuS](#)

Group I	Mon	11:45	till	13:15	weekly	ZT1202
Group II	Thu	10:00	till	11:30	weekly	ZT1202

**Methods for Explainable AI**

2+1 hours (6+3 ECTS)

Thursday, 15:15 – 16:45, ZT802

H. Strobel/  
O. Deussen

See: [ZEuS](#)

Tutorial	Fri	11:45	till	13:15	Weekly	ZT702
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### **3. Advanced Methods: Statistics**

#### **Research Design II: Statistical Modelling and Inference in Quantitative Research**

Thursday, 13:30 – 15:00, A701

See: [ZEuS](#)

M. Herrmann

#### **Applied Time Series Analysis**, 3+1 hours (8cr)

Weekly - Monday, 11:45 – 13:15, F429

Fortnightly – Friday, 11:45 – 13:15, F429

See: [ZEuS](#)

R. Brüggemann

### **4. Programming and Skripting**

#### **Programmierkurs I**, 2+2 hours (6 ECTS)

Information under foundations section

J. Fuchs

#### **Programmierkurs II**, 2 hours (3 ECTS)

Information under computer science section

S. Storandt

#### **Data Analysis with R**, 2 hours (7 ECTS)

Thursday, 10:00– 11:30, BS217

Friday, 10:00 – 11.30, BS217

See: [ZEuS](#)

M. Herrmann

### **5. Social Science Applications**

Dept. of Politics and Public Administration:

#### **Seminar - Web and Society: A Computational Social Science Perspective**

2+1 hours (6+3 ECTS)

Thursday, 10:00 – 11:30, G421

See: [ZEuS](#)

J. Kulshrestha

Tutorial	Thu	08:15	till	09:45	fortnightly	F425
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#### **Seminar - Designing and implementing online survey experiments**

2+1 hours (6+3 ECTS)

Wednesday, 11:45 – 13:15, D432

See: [ZEuS](#)

S. Shikano

Tutorial	Tue	17:00	till	18:30	Fortnightly	D432
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**Dept. of Computer and Information Science:**

**Applied Visual Analytics**

2+1 hours (6 ECTS)

Wednesday, 17:00 – 18:30, ZT1202

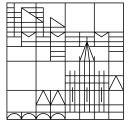
See: [ZEuS](#)

D. Keim



Timetable [Foundation of Data Science](#) Summer Semester 2022

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8:15 – 9:45			Statistics /S.Shikano	Econometrics I /W. Pohlmeier	Econometrics I /W. Pohlmeier
10:00 – 11:30	Data Visualization Basic Concepts /J.Fuchs Konzepte der Informatik/ B.Pampel	Konzepte der Informatik / B.Pampel	Analysis und Lineare Algebra /S.Kosub	Analysis und Lineare Algebra /S.Kosub	Statistics I /R.Brüggemann
11:45 – 13:15	Statistik /M.Buis				
13:30 – 15:00					
15:15 – 16:45		Programmierkurs I, / J. Fuchs Statistics /S.Shikano			
17:00 – 18:30					



Timetable [Advanced Modules Summer Semester 2022](#)

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8:15 – 9:45			Big Data Management and Analysis /M.Grossniklaus		
10:00 – 11:30	Algorithmen und Datenstrukturen /S.Storandt		Analysis und Lineare Algebra /S.Kosub	Analysis und Lineare Algebra /S. Kosub Seminar - Web and Society/J. Kulshrestha	
11:45 – 13:15	Applied Time Series Analysis /R. Brüggemann  Seminar Data and Information Mining /A.Spitz		Seminar - Designing and implementing online survey experiments /S.Shikano	Document Analysis: Computational Methods /A.Spitz	Applied Time Series Analysis /R. Brüggemann
13:30 – 15:00	Datenbanksysteme /M. Grossniklaus  Introduction to Machine Learning/ Sutter & Rupp	Datenbanksysteme /M. Grossniklaus  Multimedia Retrieval: Basic Concepts/ D. Keim		Research Design II: Statistical Modelling and Inference in Quantitative Research / M.Herrmann	Graph Data Management and Analysis /M. Grossniklaus
15:15 – 16:45	Programmierkurs II /S.Storandt	Algorithmen und Datenstrukturen /S.Storandt		Methods for Explainable AI/ Strobel & Deussen	

<b>17:00</b> - <b>18:30</b>					
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