Welcome to Web and Data Science at Universität Koblenz-Landau

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slides are based on previous versions by
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The **Past**: Web Science at Universität Koblenz-Landau

**Koblenz**
(Local administration)
- Education
- Philologie / Cultural Science
- Mathematics / Natural Science
- Computer Science

**Mainz**
(Overall administration)

**Landau**
(Local administration)
- Educational Science
- Cultural and Social Science
- Natural and Environmental Science
- Psychology
Now and Future:
Web and Data Science at
Universität Koblenz

**Koblenz**
(Overall administration)

**Fall 2019**
- New beginners enter into the programme „Web and Data Science“
- Former „Web Science“ students may change into the programme „Web and Data Science“

**Fall 2022**
- University of Koblenz (without Landau) will be established
- You need to do nothing about it.
Web and Data Science (MWDS)

• You have been automatically enrolled in MWDS
• Some former MWS students will transfer to MWDS
• You need to do nothing about it.
Department of Computer Science

- Approximately
  - 1900 students,
  - 22 professors
  - 100 scientific staff
  - 125 doctorates, 12 „Habilitationen“
  - 20 non-scientific staff

- Third-party-funds in 2018: approx € 2.5 M
- Around 200 scientific publications per year
- (Inter)national research networks
- Economic factor in this region
About Institute WeST

Founded in 2009 by Prof. Dr. Steffen Staab

Interim Head of Institute
PD Dr. Matthias Thimm

Rests upon three institutes:
- Institute for Computer Science
- Institute for Management
- Institute for Information Systems
Focus topics

Social Web & Web Retrieval
understanding social relations within the Web
understanding Web 2.0 contents

Semantic Web & Knowledge Representation
represent the meaning of linked data

Interactive Web und Human Computing
make the web more user-friendly
solve problems by interaction of web and user, eye tracking

Machine Learning & Data Science
Acquire knowledge from data, understand data

Web Science and Management
understand social processes in the web to predict business behaviour
WHAT TO DO FIRST (ONCE YOU GET HERE)
Get a User Account

https://management.uni-koblenz.de/tools/register/register.cgi?language=en

– Wireless network
– E-Mail, newsgroups
– KLIPS (registering for courses and exams)
– OLAT (Online Learning And Training)
– Owncloud, Webspace
– SVN
– Office 365, Microsoft Dreamspark, Apple on Campus and others
WHAT MASTER STUDIES MEAN
Academic freedom means that you are free...

...to come or not to come
...to study or not to study
...to self-improve or not
You do not have to attend classes, but...

Class Attendance in College
A Meta-Analytic Review of the Relationship of Class Attendance With Grades and Student Characteristics
Marcus Credé, Sylvia G. Roch, Urszula M. Kieszczynka
First Published June 1, 2010  |  Research Article

Abstract

A meta-analysis of the relationship between class attendance in college and college grades reveals that attendance has strong relationships with both class grades (k = 69, N = 21,195, r = .44) and GPA (k = 33, N = 9,243, r = .41). These relationships make class attendance a better predictor of college grades than any other known predictor of academic performance, including scores on standardized admissions tests such as the SAT, high school GPA, study habits, and study skills. Results also show that class attendance explains large amounts of unique variance in college grades because of its relative independence from SAT scores and high school GPA and weak relationship with student characteristics such as conscientiousness and motivation. Mandatory attendance policies appear to have a small positive impact on average grades (k = 3, N = 1,421, d = .21). Implications for theoretical frameworks of student academic performance and educational policy are discussed.
You are free to come as you like, but...

...coming late to class
• disturbs the concentration in the room
• is a nuisance to fellow students and lecturers
• destroys yours and your peer group’s reputation
We all have different talents, but....

• You will have to acquire some missing skills without advice from lecturers/tutors
• You will not excel without some proficiency in **math** and **programming**
• Also collaborate and help each other without plagiarizing or free-riding
Seminars and Group work

• Free riding
• Not showing up / showing up late
• Mediocre preparation

no formal penalty (except for worse grades), but
• disrupts the work of your peers
• makes life of your peers hard
• tarnishes your reputation as individual and group
2/3rd of students fail the first exam in „Introduction to Web Science“
Why? Not because it was hard, but
• It is a lot
• It may build on things you do not know

See the material and ask: **What do I not know about it?**
Academia in Germany

Please be punctual
- c.t. = cum temporae = + 15 minutes
- s.t. = sine temporae = on time
- 2 SWS = 90 min/week

Communication styles
- Less hierarchical than Asia, not as informal as US
- Be polite, but clear
- „Dear Professor/Dr. $lastname“ or „Dear Mr./Ms. $lastname“

Independence and autonomy
- First inform yourself, then don’t be afraid to ask
- Think and work independently
Work hard, play hard

• Enjoy Koblenz and Germany!
• Learn German

After Corona you will have access to:
• Koblenz libraries
• Sports
  – AHS – Allgemeiner Hochschulsport (also online)
  – Sport clubs
• Sommer-Uni (Campus festivals)
• University choirs and orchestras
Sources of Information

German culture
https://www.studying-in-germany.org/german-culture/

Campus life
Facebook (first semester)
Unipedia
Welcome Center
KOSINUS

M.Sc. Web Science
Fellow students
„Anhang 9 Prüfungsordnung“
WeST website
MoMa
KLIPS
Facebook (Web Science)
M.SC. WEB AND DATA SCIENCE
Goals

Deal with complex tasks in research and development

Quickly familiarise with all topics of the subject

Work autonomously

Have the technical and social skills for leading

Qualify for a Ph.D. programme
Curriculum: Sources

Gemeinsame Prüfungsordnung für die Bachelor- und Masterstudiengänge des Fachbereichs Informatik vom 09. Juli 2019
legal foundation

Courses offered in English
At the faculty for Computer Science

WeST website
http://west.uni-koblenz.de/studying/mwds/curriculum
http://west.uni-koblenz.de/studying/mwds/courses
(not necessarily complete)

KLIPS
up-to-date, complex, you must work with it
Topics

- Research work, Seminar, Soft Skills
- Master Thesis
# Curriculum

<table>
<thead>
<tr>
<th>Foundations of Web Science</th>
<th>Data Science</th>
<th>Electives</th>
<th>Research work, seminar, soft skills</th>
<th>Master Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1</strong></td>
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<tr>
<td><strong>Year 2</strong></td>
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<tr>
<td><strong>Summer</strong></td>
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</tbody>
</table>

Dr. Ulrich Wechselberger (west@uni-koblenz.de)
## Curriculum

<table>
<thead>
<tr>
<th>Year 1 Winter</th>
<th>Foundations of Web Science</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Year 2 Summer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[13] 3rd module interdisciplinary.</td>
</tr>
</tbody>
</table>

# Foundations of Web Science

3/3 Modules, 20 ECTS

<table>
<thead>
<tr>
<th>Module No.</th>
<th>Module Name</th>
<th>Lang.</th>
<th>SS20</th>
<th>Semester</th>
<th>Type</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>04IN2026</td>
<td>Introduction to Web Science</td>
<td>en</td>
<td></td>
<td></td>
<td>L4+T/S2</td>
<td>8</td>
</tr>
<tr>
<td>04IN2027</td>
<td>Network Theory &amp; Dynamic Systems</td>
<td>en</td>
<td>yes</td>
<td>1-4</td>
<td>L3+T1</td>
<td>6</td>
</tr>
<tr>
<td>04IN2012</td>
<td>Engineering Web and Data-intensive Systems</td>
<td>en</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Year 1</td>
<td>Winter</td>
<td>Foundations of Web Science</td>
<td>Data Science</td>
<td>Electives</td>
<td>Research work, seminar, soft skills</td>
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</tr>
<tr>
<td>Year 2</td>
<td>Winter</td>
<td></td>
<td></td>
<td></td>
<td>[10] Seminar Web Science</td>
<td></td>
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<tr>
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<td>[13] 3rd module interdisciplinary</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Summer</td>
<td></td>
<td></td>
<td></td>
<td>[14] Team training, research lab</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>[16] colloquium</td>
</tr>
</tbody>
</table>
# Data Science

3/3 Modules, 18 ECTS

<table>
<thead>
<tr>
<th>Module No.</th>
<th>Module Name</th>
<th>Lang.</th>
<th>SS20</th>
<th>Semester</th>
<th>Type</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>04IN2102</td>
<td>Big Data</td>
<td>en</td>
<td>1</td>
<td>L2+T/S2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>04IN2043</td>
<td>Introduction to Data Science</td>
<td>en</td>
<td>1</td>
<td>L2+T/S2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>04IN2028</td>
<td>Machine Learning</td>
<td>en</td>
<td>1</td>
<td>L2+T/S2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>Semester</td>
<td>Course Title</td>
<td>Module</td>
<td>Module</td>
<td>Electives</td>
<td></td>
</tr>
<tr>
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</tr>
</tbody>
</table>

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## Electives (Computer Science)

3/18 Modules, 18 ECTS

<table>
<thead>
<tr>
<th>Module No.</th>
<th>Module Name</th>
<th>Lang.</th>
<th>SS20</th>
<th>Semester</th>
<th>Type</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>04WI2010</td>
<td><strong>E-Participation</strong></td>
<td>yes</td>
<td></td>
<td>L2+T/S2</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>04IM2006</td>
<td><strong>Online Consumer Behavior</strong></td>
<td></td>
<td></td>
<td>L2+T/S2</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>04IM2008</td>
<td><strong>New Product Development</strong></td>
<td></td>
<td></td>
<td>L2+T/S2</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>04IN2042</td>
<td><strong>Computational Social Science</strong></td>
<td></td>
<td></td>
<td>L2+T/S2</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>04IN2023</td>
<td><strong>Semantic Web</strong></td>
<td></td>
<td></td>
<td>L2+T/S2</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>04IN1021</td>
<td><strong>Web Retrieval</strong></td>
<td></td>
<td></td>
<td>L2+T/S2</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

You can choose other modules!
## Electives (Interdisciplinary)

3/18 Modules, 18 ECTS

<table>
<thead>
<tr>
<th>Module No.</th>
<th>Module Name</th>
<th>Lang.</th>
<th>SS20</th>
<th>Semester</th>
<th>Type</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>04WI2019</td>
<td>Business Software</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>03MA2504</td>
<td>Linear and Network Optimization</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>04IM2010</td>
<td>Entrepreneurial Strategies</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

You can choose other non-computer science modules!
## Curriculum

<table>
<thead>
<tr>
<th>Year 1 Winter</th>
<th>Year 1 Summer</th>
<th>Year 2 Winter</th>
<th>Year 2 Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>[5] 2nd module computer science (elect.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Foundations of Web Science

- Year 1 Winter: [1] Network Theory and Dynamic Systems

### Data Science

- Year 1 Summer: [6] Introduc. to Web Science

### Electives

- Year 1 Winter: [3] 1st module computer science (elect.)
- Year 1 Summer: [8] 2nd module interdisciplinary
- Year 2 Winter: [9] 3rd module computer science (elect.)

### Research work, seminar, soft skills

- Year 1 Winter: [4] 1st module interdisciplinary
- Year 1 Summer: [9] 3rd module computer science (elect.)

### Master Thesis


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Research work, seminar, soft skills, Master Thesis

4/4 Modules, 46 ECTS

<table>
<thead>
<tr>
<th>Module No.</th>
<th>Module Name</th>
<th>Lang.</th>
<th>SS20</th>
<th>Semester</th>
<th>Type</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>04IN2011</td>
<td>Seminar in Web Science</td>
<td>de/en</td>
<td>yes, various</td>
<td>S2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>04FB2003</td>
<td>Research Work after training in team and leadership</td>
<td></td>
<td>yes</td>
<td>T2+P6</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>04FB2004</td>
<td>Master Thesis</td>
<td></td>
<td></td>
<td>Thesis</td>
<td>27</td>
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<tr>
<td>04FB1004</td>
<td>Colloquium</td>
<td></td>
<td></td>
<td>S2</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Dr. Ulrich Wechselberger (west@uni-koblenz.de)
Curricular Advice

Have a look at the course requirements KLIPS, MoMa

Complete the Social Skill module as early as possible

If you find a suitable module that is not unlocked for Web and Data Science in KLIPS: ask me
Examination

Module Exams (14 modules)
- written or oral exams
- course achievements
- research paper (optional)

Master Thesis + Colloquium (2 modules)

Final grade: \[
\frac{\sum_{i=1}^{16} ECTS_i \times grade_i}{\sum_{i=1}^{16} ECTS_i}
\]

International students tend to be surprised by what we require in the exams!
German skills determine migrants’ salaries


- Migrants with very good German can earn as much as locals
- The better the level of German, the higher the salaries of migrants
- If you plan to stay longer in Germany, take all opportunities for studying German in courses that are offered to you by the university
Any questions?