DAAD

Deutscher Akademischer Austauschdienst
German Academic Exchange Service

INTERNATIONAL PROGRAMMES

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Master's degree

Web and Data Science (MSc)

University of Koblenz • Koblenz

Overview

Degree	Master of Science in Web and Data Science
Teaching language	• English
Languages	All required courses are taught in English; some additional electives can be taken in German. We recommend that foreign students acquire German language skills as speaking German facilitates everyday life.
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	EU applicants: • 15 July for the following winter semester Non-EU applicants: • 15 June for the following winter semester The number of students accepted per year is limited.
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	The Master of Science in Web and Data Science teaches specialised knowledge for analysing data and for designing and developing Web and data-intensive systems. Germane to such development and analysis is the understanding of the Web and data ecosystems as being multi-faceted, governed by technologies, economics, and social interactions of humans, interest groups, companies and governments. This Master's degree qualifies graduates of the programme for independent, academic work, lays the foundations for further development of the subject area, and is the preparation/prerequisite for doctoral studies.

The objective of the curriculum is to achieve a foundational understanding of Web and data-intensive systems as being derived from techno-sociological interactions. For this purpose, the programme broadens and deepens competencies in designing and developing Web and data-intensive systems, in automated analysis of data in general and Web data (content, links and usage) in particular. The programme also covers the interaction of Web and data-intensive systems with legal constraints (e.g., digital rights), group processes (e.g., social network analysis), economic behaviour (e.g., marketing and online consumer behaviour) and political processes in the Web (e-participation). The course of studies deepens the ability to formulate problems and to undertake the resulting tasks in working teams and promotes qualifications beyond the scope of studies. Furthermore, the aim is for graduates to perform duties independently and take on challenging tasks related to analysing data, generating a data narrative, developing an interactive Web presence and developing a Web and/or data strategy for companies and governments addressing the needs of customers and other end users. Particular objectives of the curriculum are:

- Graduates have comprehensively internalised the concepts and competencies acquired with their Bachelor's course of studies. Thus, beyond meeting the educational goals of their Bachelor's studies for study-specific competencies and general competencies, they have acquired an increased maturity and confidence in applying these concepts and competencies also to novel problem domains.
- They have deep knowledge about data analysis and visualisation, the development of Web systems, Web strategies and the development of the Web and data ecosystems as wholes.
- They possess profoundness and broadness in order to work their way into future technologies in their own field as well as the periphery of their own area/field.
- They are able to successfully apply the acquired knowledge of Data Science and Web Science for the formulation and solution of complex problems in research and development in the public sector, in ICT industry or research institutions, and to critically question the acquired knowledge and if required to further develop it.
- They have acquired various technical and social skills, such as the capacity to abstract, systems thinking, the ability to communicate and work in teams, and international and intercultural experience. They are thus prepared for managerial/executive functions.
- They have become familiar with academic work in fundamental research and fulfil the prerequisites for progressing on to a doctorate.

Course Details

| Course organisation | The Master of Science in Web and Data Science has a strongly self-determined course of studies. The composition/construction of the course of studies allows students greater freedom of choice and the inclusion of research, which leads to greater maturity as an academic. The interdisciplinary curriculum emphasises computer science, data science and builds bridges to social sciences, economics, studies of the law, linguistics, and mathematics. The courses in the Master of Science in Web and Data Science are taught in English. The curriculum is organised into five module groups: |

1. **Web Science** (three modules) establishes the main idea of Web Science, Web Engineering and Social Networking models. It provides an interdisciplinary primary view of the web and of more abstract web structures.
2. **Data Science** (three modules) teaches prime concepts of Data Science relevant to Big Data and Machine Learning. It enables the student to learn how to source, analyse and communicate data along with turning analysis into useful insights and use these insights for strategic business plans.
3. **Mandatory elective courses in computer science or interdisciplinary subjects**(36 ECTS) are further grouped into sub-groups of Mathematical Modelling, Information Management, Business Informatics, Computer Science, and other research-based subjects. This module allows students to choose interdisciplinary subjects to strengthen their web-related management, mathematical and technical concepts.
4. The topic of the **Master's thesis** can be freely chosen from any Web and Data Science subjects (30 ECTS).
5. Topics for **seminars and research lab** can also be freely chosen from Web and Data Science subjects. Furthermore, this module group contains a social skills and leadership training (16 ECTS).

A Diploma supplement will be issued	Yes
Special promotion / funding of the programme	• Other (e.g. state level)
Course-specific, integrated German language courses	No
Course-specific, integrated English language courses	No

Costs / Funding

Tuition fees per semester in EUR	None
Semester contribution	Currently approx. 230 EUR per semester, covering contributions to the student services, the student union, and local public transport ticket.
Costs of living	We estimate that students require about 934 EUR per month to cover the costs of living (including housing, bills, internet, food, clothes, study materials, etc.). However, this depends on the individual style of living, the type of housing, etc.
Funding opportunities within the university	No

Requirements / Registration

Academic admission requirements	Bachelor's degree in computer science, computational visualistics, or comparable. In this degree the areas of practical, technical, and theoretical computer science as well as mathematics have to be sufficiently covered by courses.
Language requirements	English language skills at level B2, demonstrated by one of the following at minimum: • a TOEFL result of 550 (paper-based) / 213 (computer-based) / 79-80 (Internet-based/ Home Edition) • IELTS 6.5 points minimum For daily life, we recommend that students learn some basic German.
Application deadline	EU applicants: • 15 July for the following winter semester Non-EU applicants: • 15 June for the following winter semester

The number of students accepted per year is limited.

Submit application to	Universität Koblenz c/o uni-assist e.V. 11507 Berlin Germany www.uni-assist.de

Services

Possibility of finding part-time employment	A number of jobs are available at the university (e.g., as study assistants). Students can also find part-time jobs outside the university, e.g., at start-up companies in the technology centre nearby the campus or in companies in Koblenz and surroundings. Basic German will be helpful for finding a job.
Accommodation	Accommodation is available in student residences or on the private housing market. A certain number of rooms in student residences are reserved for incoming international students. Students can contact the **Welcome Center on campus Koblenz**for further information on the application process or regarding the search for private housing. E-mail: accommodation@uni-koblenz.de
Career advisory service	Preparation of international Master's students for the German job market
Support for international students and doctoral candidates	- Welcome event - Buddy programme - Specialist counselling - Cultural and linguistic preparation - Accompanying programme
General services and support for international students and doctoral candidates	- Orientation Week - German language courses from level A1 to C1 for enrolled students

University of Koblenz

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The University of Koblenz is one of the youngest universities in Germany – yet rests on a long-established scholarly tradition. Four profile areas are linked in a unique way: "Education", "Computer Sciences", "Culture and Mediation" and "Material and Environment". These profile areas also provide important impulses for teacher education, which plays a pivotal part at our university. Interdisciplinary cooperation and short distances on campus characterise everyday university life and enable vivid interdisciplinarity and continuous innovation in science.

The University of Koblenz offers a broad range of high-quality study programmes to its over 9,000 students. The university sees itself as a driving force in developing a vivid economic and scientific region and is internationally visible and connected at the same time.

The university has given itself the claim "continue discovering". This reflects the incentive and aspiration of all members of the university to constantly question the familiar and the customary in order to arrive at new insights and findings. To this end, the university offers its members the required resources to further develop their studies, teaching and research and to break new ground in transferring ideas, knowledge and technology.

University location

Koblenz is a city with a rich, 2,000-year history. With currently more than 113,000 inhabitants with more than 130 different nationalities, Koblenz is located in one of the most attractive regions in Germany. Its surrounding landscape, the Upper Middle Rhine Valley, is honoured as a UNESCO World Cultural Heritage Site. Together with the metropolitan areas of Frankfurt and Cologne, which are close by, it features many cultural attractions and recreational facilities in combination with moderate living costs, making Koblenz an ideal place to study.

Contact

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Faculty 4: Computer Science

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🌐 Course website: https://www.uni-koblenz.de/de/studium/studienangebot/web-and-data-science-master-of-science

f http://www.facebook.com/InstituteWeST

⚫ https://twitter.com/west_ko

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International Programmes in Germany - Database

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