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 facebook.com/uni.koblenz.landau

 youtube.com/user/unikoblenzlandau

 twitter.com/unikold

Homepage
www.uni-koblenz-landau.de

Overview of the degree program
www.uni-ko-ld.de/mammsso

Uniblog – The online-magazine
www.uni-koblenz-landau.de/blog

APPLY NOW!

Deadlines for winter semester: **15 June for non-EU students** and **15 July for EU-students**. Deadlines for summer semester: **15 December for non-EU students** and **15 January for EU-students**. Due to the long visa application process, we strongly advise non-EU students to apply for the summer semester by 15 November and for the winter semester by 15 May. Applicants with an international degree apply via www.uni-assist.de

Contact

Information and support
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IMPRINT
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February 2021

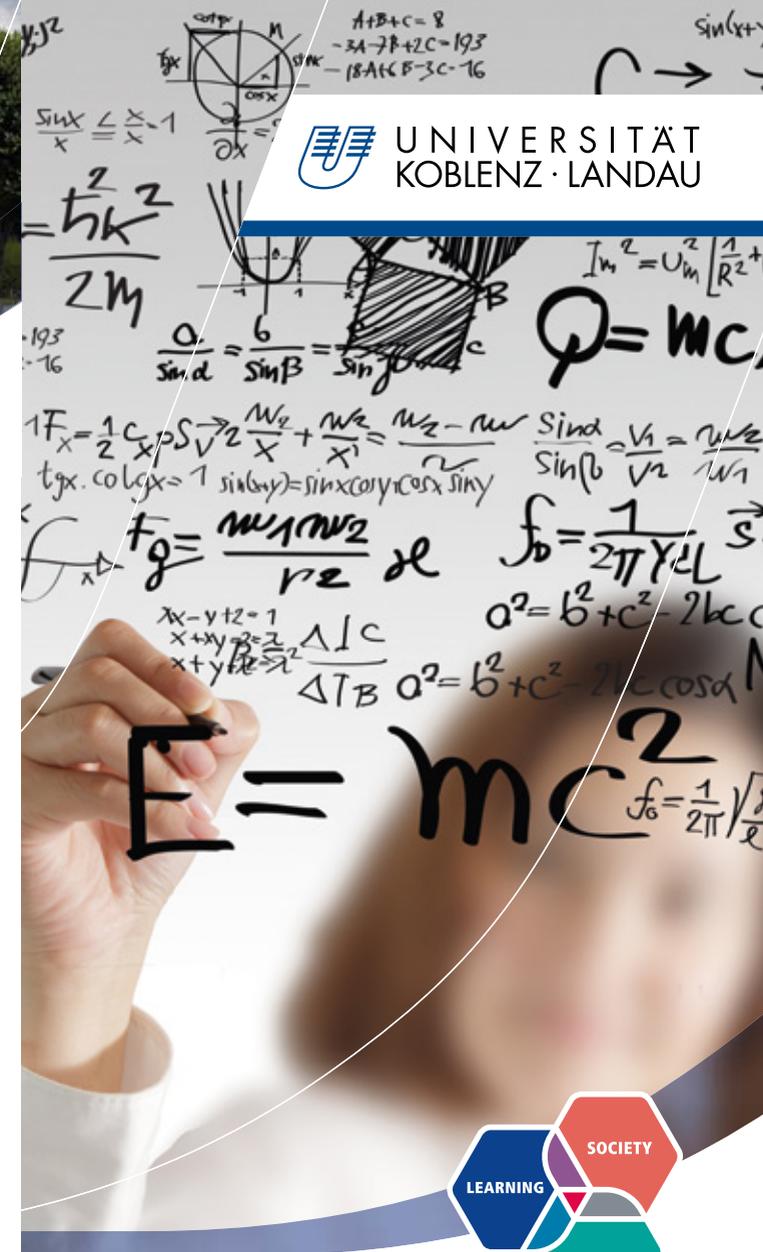


The University

The University of Koblenz-Landau is a young university with a unique structure. With our campus in Koblenz, our campus in Landau and the central administration in Mainz, we are present at altogether three locations. Since its foundation, the university has developed dynamically. With ca. 17,000 students, we have become the second-largest university in Rhineland-Palatinate. We have kept manageable structures and a personal atmosphere which fosters an easier and direct contact for students to teachers but also into research. Speaking of research: We have a set profile. Our research activities and study programs are governed by the three fields "Learning", "Society" and "Environment".

INTERCONNECTED AND INTERNATIONAL

We are working together in research and teaching with partner universities around the globe. Young people from more than 80 countries are studying with us and we also support our outgoing exchange students with their stay abroad. By the way: The University of Koblenz-Landau is an ideal starting point for visionaries. We are an entrepreneurial university and provide expert support for start-ups. A family-friendly policy is important to us. We, e.g., have a modern kindergarten with qualified staff for daycare on both campuses.



MASTER MATHEMATICAL MODELING, SIMULATION AND OPTIMIZATION

Campus Koblenz
Department 3: Mathematics/Sciences

Profile

The Master's program "Mathematical Modeling, Simulation and Optimization" (M.Sc. MMSO) is deliberately designed as an English study program, as it intends to prepare students for the entry into a highly internationalized working and research field. In addition to lectures on mathematical modeling, simulation and optimization of complex systems, elective modules allow an individual focus. An application- and research-oriented project seminar concludes the study program, additionally to the Master's thesis. The degree program qualifies you as an expert with a repertoire of modern mathematical and computer-aided methods that you can apply flexibly to solve problems arising in various fields such as engineering, consulting or finance.

Career prospect

Graduates of Mathematical Modeling, Simulation and Optimization will be generalists rather than specialists: with broad knowledge and skills, they will be the versatile and conjunctive backbone of interdisciplinary teams coping with future challenges. Consequently, they find interesting positions in major companies addressing, e.g., engineering, consulting, or finance.

Alternatively, a Ph.D. degree in mathematics, physics, or computer science in Koblenz, Germany, or abroad may be pursued.

Study contents

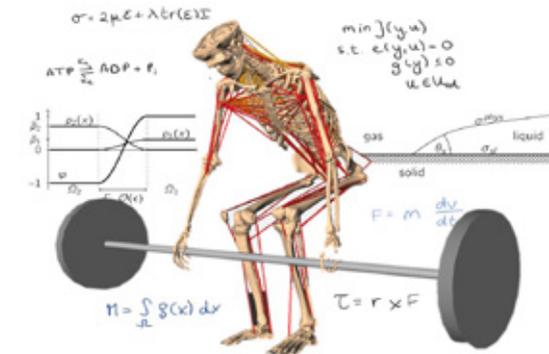
Master Mathematical Modeling, Simulation and Optimization	
Mandatory courses	
Project seminar	
Elective courses	
Master thesis	
Mathematics	<ul style="list-style-type: none"> Applied Differential Equations Numerics of Partial Differential Equations Applied Optimization
Physics	<ul style="list-style-type: none"> Physics in Applications Solid State Physics Surface Science
Computer Science	<ul style="list-style-type: none"> Machine Learning Web Science Network Theory

The two-years M.Sc. program MMSO is the first of its kind in Germany. During the first and second semester, you take courses in applied mathematics, physics, and computer science needed for advanced modeling, simulation and optimization of complex systems. In the third semester, you start focusing on a specific area and subject by choosing from modules of interests. A project seminar reinforces the specialization and prepares for the Master's thesis in the fourth semester. This thesis is an individual research work which is typically embedded in a larger current research project within the university or in collaboration with external partners.

Practical and research orientation

A central element of the MMSO study program is the project seminar. In this seminar, students work individually or in small groups on current topics of research. These topics may arise from research projects carried out at the university and its affiliated institutes or originate from cooperations with companies. The participants learn to utilize computing and/or experimental facilities for modeling, analyzing simulation and optimizing complex systems. Working in peer-groups trains their teamwork as well as communication and social skills.

Typically, the problems dealt with in the project seminar are the nucleus of the upcoming Master's thesis.



Faculty Mathematics/ Natural Sciences

The faculty of Mathematics/Natural Sciences comprises the areas of mathematics, science, and sports. The Mathematical Institute combines scientific and didactic research; the thematic focus lies in mathematical modeling, simulation, and optimization of applied scientific issues.

Program overview

Mathematical Modeling, Simulation and Optimization	
Degree	Master of Science
Campus	Campus Koblenz
Course requirements	<ul style="list-style-type: none"> Bachelor's degree in mathematics, physics or computer science Knowledge of English that is at least equivalent to Level B2 (equivalent to TOEFL of at least 72 points or IELTS of at least 5.0 points).
Local admission restrictions	Only candidates with a final grade of at least 2.5 (German grading system) in the Bachelor's degree program will be accepted.
Start of studies	Summer and winter semester
Duration of studies	4 semesters
Language of teaching	English

Semester abroad

The first two semesters of the Master's program are designed as a mobility window for a semester abroad for German students. The Master's program is part of the European network ECMI (European Consortium for Mathematics in Industry). The network offers a large number of international collaborations with partners in other European countries as well as the opportunity for a semester at a European partner university. The intensive exchange of information within the framework of the ECMI network enables targeted and tailored advice for students when planning their semester abroad. The stay abroad is not a mandatory part of the course, but it is recommended and actively supported.