

Bachelor of Science in Environmental Engineering

Qualification Profile according to the Bologna requirements

This science oriented course for a Bachelor of Environmental Engineering aims to teach the basic specialized knowledge, methodical competencies and core skills required for undergraduate engineer professionals.

After the completion of the first three semesters, students are able to understand, analyze and solve problems of advanced engineering mathematics, mechanics of rigid and elastic solids as well as fluids. They can transfer these basic tasks into a computerized environment and produce solutions using suitable tools of computer algebra, CAD and data base analysis. Students of Environmental Engineering can solve basic problems of organic and inorganic chemistry and evaluate the properties of substances concerning technical applications and the environment. Furthermore, they are familiar with meteorological, microbiological and ecological fundamentals for environmental engineering.

After the completion of their studies, graduates are able to plan, organize and co-ordinate networked processes in engineering projects and are familiar with relevant legislation and fee scales in Germany.

Graduates of Environmental Engineering are familiar with geodetic instruments and are able to utilize them for the acquisition of spatial environmental data. They are able to analyze and visualize environmental data for monitoring natural processes and assessing the risk of environmental hazards. Furthermore, they are familiar with the material composition, properties and mechanics of soils.

Through experience in theory and practice in specialized fields, they can analyze and solve basic engineering tasks by choosing models and methods with known boundary conditions in urban water technology and hydraulic engineering, surface and sub-surface hydrology, city and transport planning as well as the sustainability of the built environment.

The graduates can evaluate the impact of their work with respect to its social, economic and ecological dimensions.

On successful completion of their bachelor's thesis, the students are able to define and tackle a basic engineering problem in a thematic field of their interest, by applying scientific methodology. They are able to write scientific reports, present their work and their methodical decisions in front of a specialized audience. They are also able to communicate key elements of engineering to the interested lay public.

A compulsory internship provides them with basic professional competences in engineering projects of industry or administration.