

Civil Engineering & Environmental Studies (M. Sc.)

Program of Study:	Civil Engineering & Environmental Studies
Department:	Civil Engineering & Surveying
Degree Awarded:	Master of Science (M.Sc.)
Form of Study:	full-time study on campus
Language of Teaching:	German
Commencement of Study:	Winter trimester
Standard Period of Study:	1 year, 9 months
Academic Counseling:	Department Chair of Civil Engineering & Surveying
Homepage:	http://www.unibw.de/bauw

I) Program Description

Civil engineers play a crucial role in the organization of our natural and technological environment. Not only do bridges, houses, and towers belong to civil engineers' area of activity, but also traffic routes (streets, train tracks, canals, airports), tunnels, supply facilities (water pipes, waterworks), facilities for energy production (power plants, renewable energy facilities), waste management systems (sewage lines, sewage treatment plants, landfills), technology to protect against natural disasters (flood protection, earthquake-resistant buildings, coastal protection), and leisure facilities. Civil engineers choose individual areas of concentration from among this range of applications. Students can focus on project-planning, the scientific construction of models, computer analysis and computer-based simulation, design and construction, or management of construction projects.

Most civil engineers are not active all of these areas in the course of their careers. Thus, the master's program offers students the opportunity to choose individual areas of concentration and earn a qualification in one of the three classical branches of civil engineering:

- Construction Engineering (building construction and underground engineering),
- Water Engineering and Geotechnics, or
- Transportation and Urban & Regional Planning.

In addition, this master's program, in the framework of the specialization course "General Civil Engineering", offers students the opportunity to examine a broad cross-section of assignments and areas of activity associated with the field.

II) Prerequisites

Candidates must hold a bachelor's degree in Civil Engineering & Environmental Studies from the Universität der Bundeswehr, or from a comparable undergraduate program of study at a different university, in order to take part in the master's program "Civil Engineering & Environmental Studies".

III) Abilities & Tendencies

Prospective students should be interested in technological issues and in issues relevant to the environment. Students should also enjoy applying mathematical methods and focusing on topics in the natural sciences (physics, chemistry, biology, geosciences). Additional qualities that are helpful in this program are excellent spatial processing ability, willingness to work in an interdisciplinary team, and the ability to think abstractly and adapt to new areas of activity.

IV) Structure of the Program

As in the bachelor's program, specialization is also carried out in the master's program in Civil Engineering & Environmental Studies. Students can choose from the following areas of concentration:

- Construction Engineering
- Earth, Water, and the Environment
- The Environment, Transportation, and Regional Planning
- General Civil Engineering

These areas of concentration are a continuation of the specialization that has already begun in the bachelor's program. "General Civil Engineering" is designed to deepen the student's understanding of the subject through exposure to a broad range of applications.

A three-month period at the end of the program is set aside for the master's thesis.

V) Careers

Graduates who hold a degree in civil engineering are generally qualified for a wide variety of careers. Many jobs are available both in the public service sector and in the business world. Engineering consultancies often hire civil engineers in the areas of planning, consulting, or quality control. There is a smooth transition between civil engineering and other branches of engineering, both with regard to content and to the scope of application. In many companies civil engineers work in cooperation with computer scientists, mechanical engineers, physicists, geoscientists, and even lawyers and economists. The construction industry as the core area for building should only be viewed as one employer among many. It is made up of a few large companies and many small and medium-sized businesses. Thus, civil engineers are able to pursue highly specialized, high-tech careers, e.g. in specialized engineering consultancies or in large companies, or less specialized careers, e.g. in small or medium-sized construction firms or in planning departments. A wealth of opportunities are available in Germany and abroad, most of which open up independently of fluctuations in the building market.

Civil engineering also prepares its students for jobs in research and development or in education—especially in the areas of overlap with related disciplines. A certain percentage of civil engineers are even successful in fields that have very little to do with their own discipline.

Civil engineering offers the chance to strike new paths at an advanced stage of study like no other subject, and it allows individuals to pursue their own interests in the course of their education. This may help to account for the large number of self-employed civil engineers.

VI) Further Information

For more information on study at the Universität der Bundeswehr München and the application process, please visit www.unibw.de/studienberatung . As a student at the Universität der Bundeswehr München, you can also complete a portion of your studies abroad. You will find information on our exchange programs and partner universities at www.unibw.de/auslandsbuero .