### Title

**Resources Engineering** – a water-oriented Master Study Program

### Institution

Karlsruher Institut für Technologie (KIT)  
[Karlsruhe Institute of Technology (KIT)]

On October 01, 2009, the Karlsruhe Institute of Technology (KIT) was founded by a merger of Universität Karlsruhe (TH) and Forschungszentrum Karlsruhe. KIT bundles the missions of both preceeding institutions: A university of the state of Baden-Württemberg with teaching and research tasks and a large-scale research institution of the Helmholtz Association conducting provident programme-oriented research on behalf of the Federal Republic of Germany. Within this mission, KIT is operating along three strategic fields of action: research, teaching, and innovation.

### Location

The city of Karlsruhe was founded in 1715. Today, it has about 290,000 inhabitants. It is located in the West of the State of Baden-Württemberg in the Upper Rhine Valley bordering the Black Forest and the Vosges Mountains. The “Technology Region” Karlsruhe (TechnologieRegion Karlsruhe) has the highest per capita researcher rate in Europe.

### Course focus

The water-oriented Master study programme "Resources Engineering" provides a forum for academic studies in natural resources engineering. Emphasis is given to aspects of civil engineering, geo- and environmental sciences. Students will learn to apply the scientific knowledge acquired for handling the natural resource water. The study will enable students to evaluate the applicability of operation and the efficiency of solutions to complex problems in research and society. In the end, the study promotes knowledge, skills, and competencies essential for contributing to integrated resources management solutions in R&D projects. This includes choosing the technical standard that is applicable for development cooperation.

We expect graduates to engage in water stewardship around the globe. The study programme is oriented toward leadership positions in fields such as hydropower engineering, water supply management, waste water and waste management, infrastructure planning, or integrated river basin management.

### Curriculum:

The 2-year course comprises four semesters (of six months each). To be awarded the M.Sc. in “Resources Engineering”, students have to complete a minimum of 120 CP ECTS: (details at [www.bgu.kit.edu/resources-engineering](http://www.bgu.kit.edu/resources-engineering))

- 90 CP for lecture courses (lectures, tutorials, lab courses)
  - 75 CP compulsory modules
    - + 15 CP compulsory elective modules
  - 30 CP for the module “Master’s thesis”
    - (writing of thesis incl. final colloquium)

The compulsory lecture courses are grouped into nine thematic modules over three semesters (with 20 weekly contact hours on average); two modules comprise the supplementary programme “International Projects” (Begleitstudium).

This supplementary programme “International Projects” (Begleitstudium) shall ensure that key competencies, such as language proficiency and the ability to successfully complete projects in groups, will be taught at a professional level. Such competencies are indispensable for working on international development projects. Therefore, the successful examination of the German language proficiency (either DSH 1 or TestDaF 3) latest by the end of the first semester is a prerequisite for matriculation for the second semester of “Resources Engineering” (and thus for the continuation of the DAAD scholarship as well).

In the second and third semesters students will choose compulsory elective modules for individual specialisation. During the fourth semester, students will write a thesis to demonstrate their ability to analyse systems and to define an appropriate approach for a solution to a given problem.
**Target group**
Graduates of a bachelor programme or of an equivalent study programme with a standard study period of three years, who have earned at least 180 CP ECTS in a disciplinary sector of the Department of Civil Engineering, Geo- and Environmental Sciences at KIT.

**Course language**
English and German
Compulsory courses are offered in English; compulsory elective courses are offered mostly in German. Hence students will specialise stepwise with the improvement of their German language proficiency.

**Entry requirements**
- above-average bachelor’s degree: B.Sc. or B.Eng.
- above average grades in engineering, geo- and environmental courses
- English: TOEFL test (88 internet based)/ IELTS certificate (6.5)
- German: level B1 acc. to CEFR
- at least 2 years of professional experience (DAAD applicants)

**Degree awarded**
Master of Science (M.Sc.)

**Course begins**
October 2012 (biannually)

**Course duration**
28 months = 4 + 24
- Preparatory course 4 months (German)
- Semesters 1–3 18 months (Lectures)
- Semester 4 6 months (Master thesis)

**Duration of German language courses**
- Prior to the beginning of the course programme:
  4 months (30 hrs/week)
- During the 1st semester:
  full term course starting on base level B1 aiming at DSH1 *
  (mandatory for all students who did not yet pass the DSH1 and whose mother tongue is not German)
* [http://www.daad.de/deutschland/foerderung/hinweise/00461.en.html#headline_0_5](http://www.daad.de/deutschland/foerderung/hinweise/00461.en.html#headline_0_5)

**Application deadlines**
- For DAAD scholarships:
  31 July 2011 at a German Embassy
  31 August 2011 at DAAD Bonn
  30 September 2011 at the Karlsruhe Institute of Technology (KIT) (Resources Engineering Office).
- For other scholarships:
  Inquire with the Resources Engineering-Office.
- For self-financing students:
  15 July 2012 at the Karlsruhe Institute of Technology (KIT) (Resources Engineering-Office).

Applications have to be submitted in English. All applicants, including applicants for scholarships, are required to submit the programme-specific application form.
(Forms are available for download at [www.bgu.kit.edu/resources-engineering](http://www.bgu.kit.edu/resources-engineering)).

**Remarks**
Tuition Fee: EUR 500 per semester
Enrolment Fee: EUR 100 per semester
German Course DB210 EUR 180 (once, 1st semester)
DSH examination EUR 110 (once, 1st semester)

**For further information contact**
Resources Engineering-Office
Karlsruhe Institute of Technology (KIT), Campus South, Department of Civil Engineering, Geo- and Environmental Sciences
Otto-Ammann-Platz 1, Bldg. 10.81, R 312
76131 Karlsruhe
Germany
Phone: +49-(0)721-608-47061 (Voicemail)
e-mail: res.eng@bgu.kit.edu
URL: [www.bgu.kit.edu/resources-engineering/english](http://www.bgu.kit.edu/resources-engineering/english)