

Overview of the Degree Program

✓ Degree

Master of Science (M.Sc.)

✓ Regular Program Length

4 semester (full-time program)

✓ Credit Points (ECTS)

120 credit points

✓ Language of Instructions

English

✓ Admission Requirements

- » a completed bachelor's or equivalent degree in the fields of physical-natural sciences, engineering-information technology and especially geodesy or geoinformatics-affine or geoscientific fields
- » necessary minimum requirements completed in the bachelor program in
 - ▶ mathematics, statistics, physics and / or mechanics of 25 credit points
 - ▶ geoinformatics, image processing, remote sensing, photogrammetry, geosciences, geodesy and / or cartography of 30 credit points
- » proof of sufficient knowledge of English of at least B2 level
- » letter of motivation

Details are found in the current admission regulations.

✓ Limited Capacity

yes

✓ Application Deadline

June 15 / November 30 for the 1st semester

Questions?

If you have **general questions** about the degree program, studying at KIT or the **application process**:

Annette Hildinger, your student advisor at ZSB:

annette.hildinger@kit.edu

If you have **specific questions** concerning the curriculum of the degree program:

Dr. Michael Mayer, your academic advisor at the KIT-Department of Civil Engineering, Geo and Environmental Sciences: michael.mayer@kit.edu

Information in this flyer was accurate at the time of printing. Program structure, study plan or deadlines could have changed since then.

Karlsruhe Institute of Technology (KIT)

Zentrale Studienberatung (ZSB)

Student Advisory Services

Engelbert-Arnold-Strasse 2

Building 11.30

76131 Karlsruhe

Phone: +49 721 - 608 44930

Email: info@zsb.kit.edu

www.zsb.kit.edu

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President Professor Dr. Jan S. Hesthaven

Kaiserstrasse 12

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Remote Sensing and
Geoinformatics

Master of Science



The Karlsruhe Institute of Technology (KIT), a fusion of a university and a large-scale research facility, represents one of the leading research and teaching institutions in Europe in natural science and engineering. Students who choose to study here opt for a scientific education that is predominately research-oriented. The wide range of offered subjects provides a high level of freedom of choice and individual specialization options in the master’s degree programs. The particularly high qualification standards at KIT are known among employers and thus offer graduates a well-paved road into starting a professional career or continuing with a doctorate.

Remote Sensing and Geoinformatics (M.Sc.)

The purpose of the master’s degree program is to deepen and complement the scientific qualifications the student has acquired in a related bachelor’s degree program. The program is composed of a balanced combination of lectures, exercises, and seminars. The first and second semesters of the two-year program set a common foundation in remote sensing and geoinformatics techniques and their applications. At the same time, a selection of one out of six profiles allows for an individual specialization according to the student’s interests.

The following profiles are available:

- » Computer Vision and Geoinformatics
- » Computer Vision and Remote Sensing of the Atmosphere
- » Computer Vision and Environmental Geodesy
- » Geoinformatics and Remotes Sensing of the Atmosphere
- » Geoinformatics and Environmental Geodesy
- » Remotes Sensing of the Atmosphere and Environmental Geodesy

Two lab rotations in the third semester offer students detailed insights into the scientific work of self-selected research groups at KIT and beyond, and help them gain hands-on research experience.

A six-month master’s thesis is completed in the fourth semester. Students are awarded the degree Master of Science (M.Sc.) in Remote Sensing and Geoinformatics upon successful completion of the program.

The language of instruction is English. Selected supplementary courses in any language may be chosen from other KIT programs to complement the students’ desired profile.



Career Prospects

Graduates of the degree program Remote Sensing and Geoinformatics can work in all areas where geodata is surveyed, collected, analyzed, visualized, and interpreted by help of modern information technology and digital media: from the automobile industry to appliance and electronics development, software development, construction companies, engineering firms, public administration and agencies, and even international aerospace organizations. Not only is a direct start in a professional career possible, graduates with excellent accomplishments may also choose to do a doctorate which opens the door to a future career in research and teaching.

What KIT has to offer

- » central campus close to the city forest and right next to the city center
- » 24/7 library offering single and group working places
- » study abroad, e.g. EUCOR, EPICUR, Erasmus or your overseas programs at your KIT-Department
- » excellent university sports facilities with a large selection of sports
- » diverse student initiatives, clubs and opportunities to actively participate in campus life
- » extensive support for career entry and self-employment, e.g. KIT-Gruenderschmiede

Characteristic Features of the Degree Program at KIT

- » future-oriented engineering program (specialization in mathematics and natural science)
- » interdisciplinary focus, with a specific connection to computer science and geosciences
- » study work in small, well supervised groups
- » large percentage of practical experience (exercises, project work)
- » research-oriented teaching through active involvement in research and engineering projects
- » integration into the EUCOR university network enables participation in courses at the universities of Freiburg, Basel, Strasbourg, Colmar, and Mulhouse without additional fees
- » integration of the large-scale research facility at the campus north into student education
- » opportunities to participate in committees (e.g., student council, study commission) to help shape the educational environment
- » attendance at national and international student conferences (e.g., KonGeoS, IGSM)

Program Structure

1st & 2nd semester		3rd semester	4th semester
<ul style="list-style-type: none">• Profiles (20 CP) 1 out of 6 profiles, compulsory as well as compulsory elective modules:<ul style="list-style-type: none">• Computer Vision and Geoinformatics• Computer Vision and Remote Sensing of the Atmosphere• Computer Vision and Environmental Geodesy• Geoinformatics and Remote Sensing of the Atmosphere• Geoinformatics and Environmental Geodesy• Remote Sensing (21 CP)<ul style="list-style-type: none">• Geoinformatics• Remote Sensing of the Atmosphere• Fundamentals of Environmental Geodesy• Fundamentals in Remote Sensing• Image Processing and Computer Vision• Mathematics and Beyond (17 CP)• Supplementary modules (4 to 6 CP)		<ul style="list-style-type: none">• Lab rotations (20 CP)• Supplementary modules (2 to 6 CP)• Key competences (4 CP)	<ul style="list-style-type: none">• Master’s thesis (30 CP)