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 Instruction

English

✓ Admission Requirements

- a completed bachelor's or equivalent degree in Meteorology or related discipline such as Physics, Mathematics, Geology, Hydrology or Oceanography
- necessary minimum requirements completed in the bachelor's program in
  - Meteorology and Climate Physics of 24 ECTS credit points
  - Physics 24 ECTS credit points
  - Mathematics 12 ECTS credit points
- If the requirements are not fulfilled completely, a conditional admission is possible
- proof of sufficient knowledge of English of at least CEFR B2 level (TOEFL, IELTS, TOEIC, Cambridge Certificate)

Details can be found in the current admission regulations.

✓ Limited Capacity

no

✓ Application Deadline

September 30 / March 31 for the 1st semester
(for applicants with German or EU nationality)

Juli 15 / January 15 for the 1st semester
(for all other international applicants)

Questions?

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

Carmen Reck, your student advisor at ZSB:
carmen.reck@kit.edu

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

Katharina Maurer, your academic advisor at the KIT-Department of Physics: **katharina.maurer@kit.edu**

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

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Karlsruhe Institute of Technology

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.

Meteorology and Climate Physics (M.Sc.)

The purpose of the master´s degree program is to deepen and complement the scientific qualification the student has acquired in the bachelor´s degree program. The first year consists of lectures, exercises and practicals (compulsory and elective) followed by an individual research project in Year 2.

The lectures, course work, computer and modelling classes in the **first semester** are devoted to individual components of the climate system and to climate dynamics and change as well as to cloud physics, radiation, aerosols, chemistry and energetics of the atmosphere.

The **second semester** module Experimental Meteorology is comprised of classes on individual measurement platforms, advanced practical courses and a one-week excursion to observatories and labs, whereas the module Applied Meteorology focuses on numerical weather prediction, air pollution, meteorological hazards, energy meteorology and data analysis.

Additionally, during their first and second semester, students acquire detailed skills in an elective from a wide range of other natural sciences as well as generic competences in soft skills areas such as scientific writing, presentation, time management or languages (including a free German course).

During **semester 3** students individually develop a chosen topic from the rich research portfolio of the Institute of Meteorology and Climate Research (IMK) into a full scientific concept.

With the completion of the Master's thesis in **semester 4**, the graduates demonstrate that they are capable of applying scientific knowledge and methods to independently solve complex research problems.

Career Prospects

MSc graduates in Meteorology and Climate Physics have a high level of employability across a wide spectrum of interesting and challenging jobs.

These include:

- stay in research and do a PhD, focusing on an academic career
- public weather services such as the German Weather Service (DWD) or private weather companies
- the insurance sector, evaluating risks due to weather and climate hazards
- the energy sector, providing reliable forecasts and predicting critical situations
- climate services, creating information resources and platforms for decision makers to adapt and prepare for climate change
- data science, processing big data in economy and engineering

Characteristic Features of the Degree Program at KIT

- Comprehensive education in meteorology and climate physics
- Studying at one of the largest and most renowned institutions for atmospheric research in Germany
- Study work in small, well-supervised groups
- Large percentage of practical experience (exercises, project work)
- Research-oriented teaching and high potential of active involvements in research projects
- For prospective doctoral candidates: Karlsruhe House of Young Scientists (KHYS)
- Campus in the city center of Karlsruhe, known for its warm and intercultural climate

Program Structure

1st semester	2nd semester	3rd semester	4th semester

• **Atmosphere and Climate Processes**
  • Components of the Climate System (12 CP)
  • Atmopsheric Processes (12 CP)
  • Elective I (4 CP)
	• **Applied and Experimental Meteorology**
	  • Experimental Meteorology (10 CP)
	  • Applied Meteorology (14 CP)
	  • Elective II (4 CP)
		• **Research Work**
		  • Specialization Phase: Scientific Concept Development (30 CP)
			• **Master thesis (30 CP)**