

### Admission requirements

The requirement for admission to the masters program is that graduates have a degree in a higher education program in computer science, or in a subject area which is related to one of the specializations (e.g. life sciences, engineering, economics, mathematics or another science subject) with at least 50 % computer science related topics, a grade of 3.0 (german grading scheme) or better, and additionally sufficient knowledge of concepts, methods, and tools in computer science. In the case of applicants with a background in a subject area other than computer science, up to 30 ECTS points demonstrating additional achievements in information science may be required on entry. Applicants from a foreign country must give proof of their german language skills.

### Expectations

A high level of motivation, commitment, initiative, responsibility and ability to work under pressure is required for planning and carrying out the program.

### Supervision

The masters program is characterized by individual supervision, training students in the use of independent scientific methods and interdisciplinary cooperation in research and development projects.

### Dates of commencement

The program may be started either in the winter or in the summer semester.

### Degree

On successful completion of the course, an internationally-recognized academic degree is awarded, the Master of Science.

Holders of this award are entitled to take up doctoral studies.

### Accreditation

The master program is accredited by ASIIN (Akkreditierungsagentur für Studiengänge der Ingenieurwissenschaften, der Informatik, der Naturwissenschaften und der Mathematik e.V.).

### Application documents

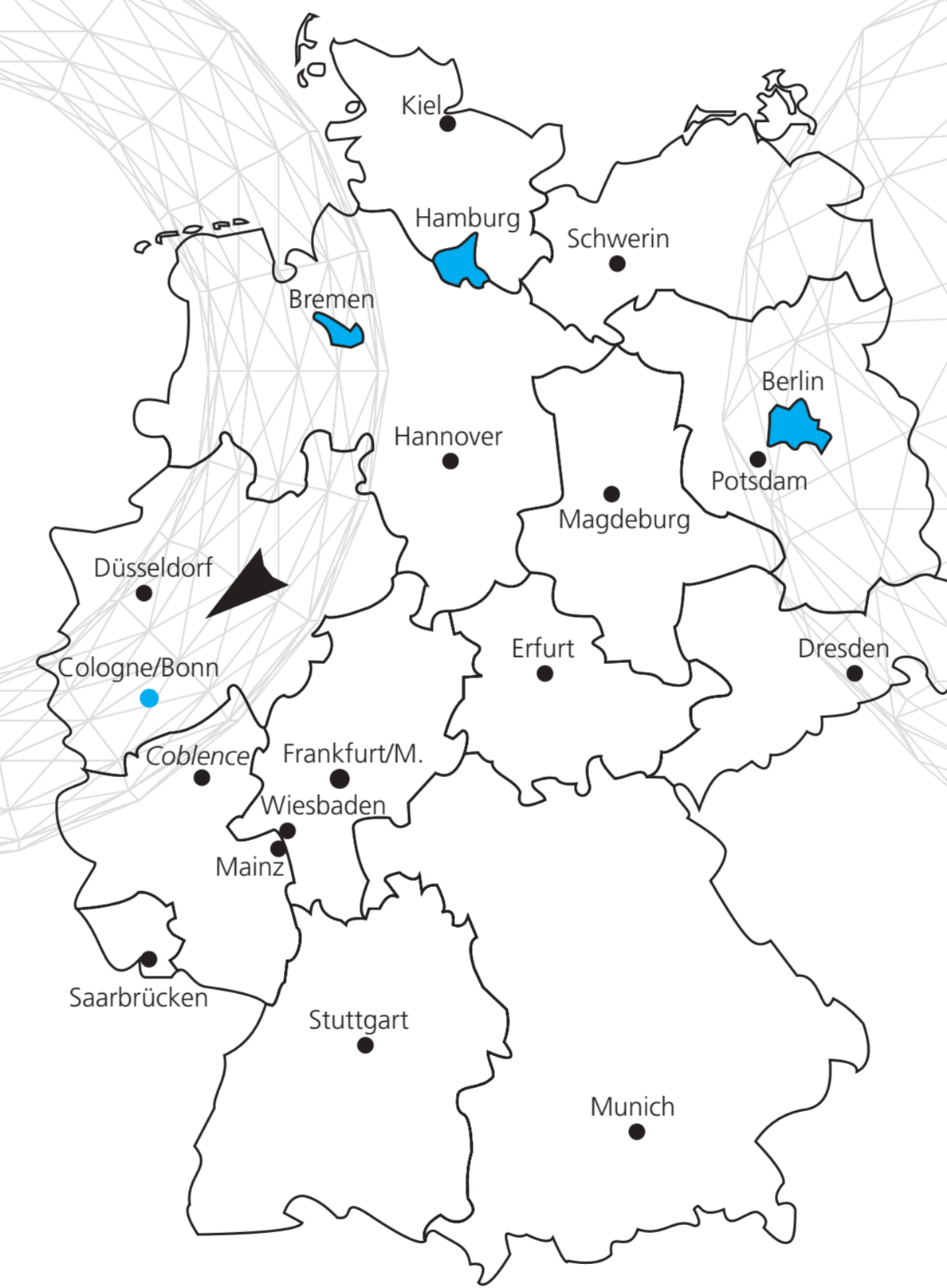
When applying for admission, documentary evidence of a first degree from an institute of higher education must be submitted.

Applicants with a first degree in a subject other than computer science are additionally required to submit documents on the courses they have completed.

### Location

The Bonn-Rhein-Sieg University of Applied Sciences can be reached from Bonn by train in only 20 min using the semester ticket, which is a must-have for all students.

Accommodations are readily available in the University's surroundings. For more information contact the International Office.



Fachhochschule Bonn-Rhein-Sieg  
University of Applied Sciences  
Grantham-Allee 20  
53757 Sankt Augustin  
Germany

### Advice, Information and Applications

#### Professor Kurt-Ulrich Witt, Ph. D.

Dean of the Department of Computer Science  
Tel. +2241/865-200 or -201 (secretary's office)  
[kurt-ulrich.witt@fh.bonn-rhein-sieg.de](mailto:kurt-ulrich.witt@fh.bonn-rhein-sieg.de)  
(subject-related advice on program)

#### Students' Office

Fachhochschule Bonn-Rhein-Sieg  
University of Applied Sciences  
Grantham-Allee 20  
53757 Sankt Augustin  
Tel. +49 2241/865-622 or -132  
[stud.sekr@fh-bonn-rhein-sieg.de](mailto:stud.sekr@fh-bonn-rhein-sieg.de)  
(general information relating to applications, matriculation, grants etc.)

#### International Office

Fachhochschule Bonn-Rhein-Sieg  
University of Applied Sciences  
Grantham-Allee 20  
53757 Sankt Augustin  
Tel. +49 2241/865-628 or -671  
[vera.schneider@fh-bonn-rhein-sieg.de](mailto:vera.schneider@fh-bonn-rhein-sieg.de)

#### Applications

Applications for the program should be addressed to the address below by the September 15th' deadline for the program beginning in the winter semester or the March 15th' deadline for the program beginning in the summer semester.

Fachhochschule Bonn-Rhein-Sieg  
University of Applied Sciences  
D-53754 Sankt Augustin  
Germany

[www.fh-bonn-rhein-sieg.de](http://www.fh-bonn-rhein-sieg.de)

Stand 12/2004

Computer Science

Information on the study  
**Computer Science**  
with a degree  
**Master of Science**

**Department of  
Computer Science**  
Fachbereich Informatik



**Fachhochschule  
Bonn-Rhein-Sieg**

University  
of Applied Sciences

## Master of Science in Computer Science

The aim of this master's program is to enable students who already hold a first degree qualifying them for the job market to study additional scientific concepts, methods and techniques in greater depth, putting them in a position to further develop and apply them in solving complex practical problems.

Following the completion of a first degree, the master's program goes into greater depth, is geared to research and development and, depending on the specialization chosen, may include interdisciplinary studies.

The master's program facilitates the transfer of expertise and technology by introducing students to innovative technologies and placing them in a position to use them to solve complex problems and to further develop these technologies themselves.

It qualifies them for responsible, interdisciplinary cooperation in solving difficult technological problems and it prepares them for positions of leadership in industry, business, administration, research and development.



The selection of a specialization ensures that graduates gain access to forward-looking technological and economic areas, especially in the fields of computer science for biomedical applications, for business applications, for media applications, and for telecommunications.

The master's program is open to interested graduates from computer science and areas related to the specializations (e.g. life sciences, engineering, economics) who wish to take an in-depth degree in computer science after completing a first degree in their subject.

If a student's knowledge of computer science is not sufficient, additional courses must be successfully completed.



## Program

A master's program usually takes four semesters to complete, (five if a number of additional courses are required). In addition to attending courses, in-depth studies and at least one research-related project are carried out individually or in small groups.

Writing a master's thesis during the last six months immediately after the end of the third semester lecture period rounds off the program. It is based on a research-related subject, to be dealt with using scientific methods.

Some of the courses and projects may be held on an interdisciplinary basis together with other departments at the university or with companies and institutions outside the university.

With its universities, scientific institutions and innovative companies, the Bonn-Rhein-Sieg area is a region of science offering excellent opportunities to cooperate, and in particular, to carry out demanding projects.



There are contacts and cooperations with foreign universities and the department encourages students to study abroad during their program.

The modular structure of the program and the evaluation of the modules and courses in accordance with the European Credit Transfer System (ECTS) facilitates the international exchange of students. 30 ECTS points must be gained in each semester, and a total of 120 points in the course of the whole master's program, including the thesis.

Most of the courses and examinations are held in German, some may be held in English.

The examinations for each course take place immediately after the course.



## Master's Program Modules (four semesters)

The master program is partitioned into modules with a certain amount of required credits in each module:

### Theoretical computer science/mathematics (10%)

E.g. complexity theory, mathematical principles of cryptography, modeling techniques, program verification

### Practical computer science (15%)

E.g. distributed and parallel systems, advanced web technologies, object-oriented software architectures, knowledge-based systems, autonomous systems, advanced topics of database systems

### Specialization (25%)

One of the following currently available specializations must be chosen:  
Computer science for business systems  
Computer science for media technology and life science applications  
Computer science for telecommunications

### Project (10%)

Students work in the third semester on a project where knowledge gained in the first two semesters is applied to a concrete scientific problem.

Additionally, a student must choose additional courses from theoretical/practical computer science or the chosen specialization (15%).

The **master thesis** in the fourth semester takes the rest of the credits (25%).