

STUDY PROGRAM

1 st to 3 rd Semester	
Mandatory Modules	39 CP
Principles of Molecular Cell Biology	12 CP
Molecular Immunology	6 CP
Advanced Molecular Cell Biology	9 CP
Research Module	12 CP
Optional Modules	51 CP
Optional Modules from MCB1 ¹	≥ 21 CP
Optional Modules from Biology ²	≤ 18 CP
Optional Modules from the University ²	≤ 12 CP
4 th Semester	
Master Thesis	30 CP

CP: Credit Points

¹ At least 21 CP are taken from the Optional Modules of Molecular Cell Biology & Immunology:

- Innate and Adaptive Immunity (12 CP)
- Project Module (12 CP)
- Cell Biology of Development (6 CP)
- Principles of Immunology (6 CP)
- Advanced Immunology (6 CP)
- Basic Methods of Molecular Cell Biology (6 CP)
- Advanced Methods of Molecular Cell Biology (6 CP)
- Cell Biology of Health and Disease (6 CP)
- Special Topics in Cell Biology & Immunology (9 CP)
- Model Organisms in Cell Biology (6 CP)

² Up to 18 CP of Optional Modules can be selected from the program of the Department of Biology. In addition, up to 12 CP can be selected from the program of the University of Tübingen.

Master MCB1



Edition: April 2016

Photo credits: S. Huelsmann, AG Macek, AG Reuter

MOLECULAR CELL BIOLOGY & IMMUNOLOGY @ TÜBINGEN

The M. Sc. MCB1 program is offered by the Department of Biology, which is a well established department with one of the longest traditions in Germany. For teaching, we use modern course and lab facilities and offer a broad spectrum of methods, as well as cutting edge technologies.

Research at the Institute of Cell Biology covers topics like proteomics, morphogenesis, organ development, autophagy and several aspects of innate and adaptive immunology. The research groups and the Master program MCB1 maintain close cooperations with the Max Planck Institutes and with the Faculty of Medicine (in particular Human Genetics, Medical Microbiology/Virology and Parasitology), and local biotech companies.

The University of Tübingen

Innovative. Interdisciplinary. International. Since 1477. These have been the University of Tübingen's guiding principles in research and teaching ever since it was founded. With this long tradition, the University of Tübingen is one of the most respected universities in Germany. Recently, its institutional strategy was successfully selected for funding in the Excellence Initiative sponsored by the German federal and state governments, making Tübingen one of Germany's eleven universities distinguished with that title of excellence. Tübingen has also proven its status as a leading research university in many national and international competitions – in key rankings Tübingen is listed among the best universities for the Humanities and Social Sciences as well as for Science and Medicine.

The City of Tübingen

Tübingen doesn't have a university, Tübingen is a university: young, creative, open, innovative. The beautiful, historic old town and its picturesque location on the Neckar River enhance the high quality of life and provide excellent opportunities for outdoor activities.

Contact study advisor: Dr. Sven Huelsmann

University of Tübingen · Faculty of Science

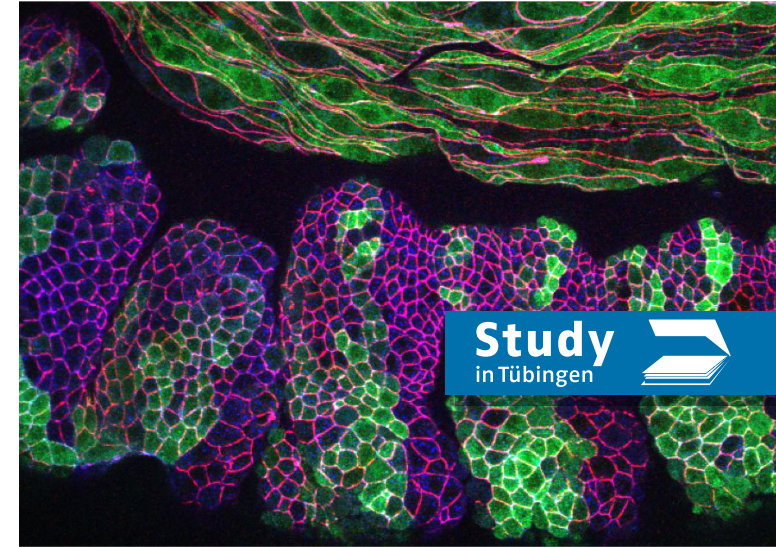
Interfaculty Institute for Cell Biology

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EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



MOLECULAR CELL BIOLOGY & IMMUNOLOGY

Master of Science

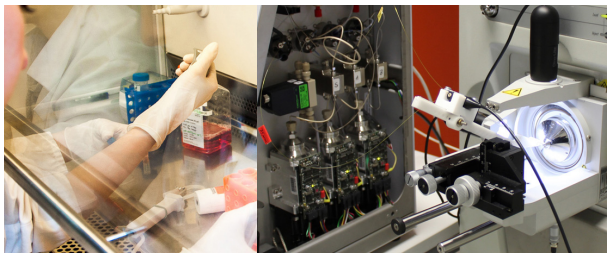
FACULTY OF SCIENCE
Department of Biology



PROFILE OF THE PROGRAM

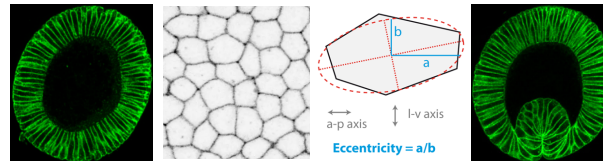
To cure human diseases successfully, future scientists need to understand the underlying altered molecular mechanisms that lead to diseases. This requires a thorough understanding of cellular and immunological processes and the knowledge of techniques to study them and is best achieved through internationally combined efforts.

The M. Sc. program „Molecular Cell Biology and Immunology“ (MCBI) offers a research-centred qualification in the areas of molecular cell biology and immunology, with a high academic standard, a broad spectrum of methods, and English as the teaching language.



SCIENTIFIC PROFILE

The M. Sc. degree course MCBI provides students with an understanding of the complex regulation of cellular and immunological processes in humans and animals. The focus of this program lies on in-depth scientific investigation of the molecular mechanisms that regulate the function and behaviour of cells and cause disease if defective. The experimental subjects are model organisms, such as mouse, *Drosophila* or *Caenorhabditis*, and cell cultures from mice or human cells. The experimental approaches include transcriptome and proteome analysis and 3D as well as 4D imaging. The experimental results provide insight into cell functions within tissues, cell differentiation and organ development. The immunological processes are examined with particular reference to disease-related malfunctions, as they occur in cases of immunodeficiency or in the context of tumor immunology.



Secondary Subjects

The M. Sc. MCBI program offers one (from a choice of three) secondary subject as part of the optional modules from the Department of Biology: Human Genetics (18 CP), Parasitology (18 CP), Ethics in Biosciences (12 CP).

CAREER OPTIONS

M. Sc. MCBI graduates have a broad and research-centered professional profile with a thorough knowledge of cellular and immunological processes and are familiar with cell biological and immunological methods at an advanced level.

Career options include:

- Postgraduate studies (PhD)
- Biotech & pharmaceutical companies
- Scientific writing & science communication

REQUIREMENTS

B. Sc. degree in biology or a related subject with a grade of 2.5 or better. Proof of English language proficiency at level B2 and German language proficiency at level B1 of the European Framework of Reference for Languages must be supplied.

Selection criteria for the ranking list: overall grade of bachelor's degree. The grade can, if applicable, be "improved" by bonus points. Further details on admission requirements and procedures can be found at

www.uni-tuebingen.de/en/63313

Further Requirements

The study program requires enthusiasm, curiosity, and dedication to biology. We expect broad interest in science as well as willingness to familiarise and work with complex scientific details, and to be able to scientifically communicate in English in written and oral form. Teaching language is English.

INFORMATION FOR APPLICANTS

Application for the M. Sc. MCBI program is possible each winter semester (starting in October).

The application deadline is July, 15th.

The application is to be submitted online only via

<https://movein-uni-tuebingen.moveonnet.eu/movein/portal/studyportal.php>

FURTHER INFORMATION

- Master Molecular Cell Biology & Immunology
www.uni-tuebingen.de/en/64304
- Department of Biology
www.biologie.uni-tuebingen.de