In MTN we learn to better understand neurological diseases and explore new therapeutic strategies.
Molecular and Translational Neuroscience is ...

Exploring the **molecular mechanisms** of neural disorders based on cell culture, animal models and bioassays from diseased persons

Research with the aim of **developing innovative therapies** and new diagnostic tools

Why Molecular and Translational Neuroscience in Ulm:

The MSc program Molecular and Translational Neuroscience (MTN) connects the field of life sciences with human medicine in an interdisciplinary way in both research and teaching. The program aims at providing a qualified, research-based education in clinically and therapeutically oriented neurosciences. It conveys specific theoretical, methodological and practical knowledge of cellular and molecular processes in neural cells and in the nervous system leading to diseases as well as the implementation of this knowledge to possible new diagnostic and therapeutic procedures and clinical applications. The close interaction with our industry partner Boehringer Ingelheim allows close insights into the work of a pharmaceutical company.

**Key advantages**

- Excellent research-oriented teaching by renowned scientists and clinical specialists
- English-language course of study
- Very good teacher to student ratio
- Cooperations with external institutions such as the DZNE Ulm as part of the Helmholtz Institute and pharmaceutical companies
- Wide variety of elective lectures (basics and priority setting lectures)
- Strong support for external internships or Master’s thesis abroad

Interdisciplinary research and teaching

The curriculum of the MTN Master’s program as an interdisciplinary program involves to a large extent the participation of institutes of preclinical and clinical medicine. It is closely related to neighboring areas such as neurology, pharmacology, molecular medicine, psychiatry, psychology, biochemistry and biology.
Who is this course aiming at

The Master’s program Molecular and Translational Neuroscience is open for graduates of the following Bachelor’s degree programs: Biology, Human Biology, Neurobiology, Molecular Medicine, Molecular Life Science, Biochemistry, Physiological Chemistry, Cognitive Science or (Bio)Psychology

The program includes the following content (amongst others):
- Neuroanatomy/Neurophysiology
- Molecular and Translational Neuroscience (Introduction and Advanced)
- Neurological/Psychiatric Diseases
- Advanced Neuroscience
- Clinical Neuroscience
- Behavioral Physiology
- Practical Trainings in internal and external laboratories
- Elective lectures from areas such as Brain Imaging, Bioinformatics, Psychology, Pharmacology, Good Scientific Practice and European Patent Law

Master

- Degree: Master of Science (MSc)
- Study time: 4 semester
- Language of instruction: English
- Program start: winter semester
- Application process and prerequisites, see homepage https://www.uni-ulm.de/mtn

Future career prospectives

Graduates of the program
- can do their PhD in the Graduate School of Molecular Medicine Ulm (IGradU), in research groups at University Hospital Ulm, Ulm University or at other universities in Germany and abroad.
- are qualified for attractive jobs
  - in basic research at biomedical research institutes
  - in the broad field of disease diagnostics, molecular analytical methods, pharmaceutical development, animal replacement research, animal models for neurological and psychiatric human diseases
  - in clinical laboratories
  - in the pharmaceutical and life science industries
  - in scientific journalism
Master Study Program Molecular and Translational Neuroscience

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Further information about the Master program MTN:
https://www.uni-ulm.de/mtn
# Studyplan Master Molecular and Translational Neuroscience

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Description</th>
<th>ECTS</th>
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| 1.       | Introduction to Molecular and Translational Neuroscience (18 ECTS)  
- Introduction to Human Neuroanatomy  
- Introduction to Human Neurophysiology  
- Molecular and Translational Neuroscience  
- Practical Training in Laboratory Methods | Compulsory elective courses to Introduction in MTN (12 ECTS) | 30 |
| 2.       | From Basic Research to Product (6 ECTS)  
- Lectures  
- Seminar | Compulsory elective courses for Advanced MTN (24 ECTS) | 30 |
| 3.       | Advanced Molecular and Translational Neuroscience (16 ECTS)  
- Molecular and Translational Neuroscience Advanced Lecture  
- Molecular and Translational Neuroscience Advanced Seminar  
- Molecular and Translational Neuroscience Advanced Practical Training  
- Neurological Psychiatric Diseases (4 ECTS)  
- Psychopharmacology  
- Neurological Diseases | Advanced Methods in Molecular and Translational Neuroscience (10 ECTS) | 30 |
| 4.       | Masterthesis incl. Disputation | | 30 |

**ECTS** = credit points (30)

- Compulsory courses
- Compulsory Elective Courses