

# Integrated Immunology

## Master of Science

The Department of Biology and the Faculty of Medicine jointly initiated this international master programme “Integrated Immunology” at the Friedrich-Alexander University (FAU) of Erlangen-Nürnberg. The Elite Network of Bavaria generously supports the programme. A central task of the Master programme is to integrate basic and clinical immunology training in a research-oriented way. The FAU has a very strong research focus on immunology, both in medicine and biology, which is reflected in many collaborative research centres and PhD graduate schools that deal with this topic. The ageing society deals more and more with the implications of infectious diseases, as well as with chronic autoimmune diseases or allergic diseases.

### 1. Content of the programme

This inter-disciplinary master programme ideally prepares for research positions both in basic, as well as in clinical immunology to tackle these types of diseases. The integration of clinical modules allows a bench to bedside approach even to master students with a biology background. Additionally, the programme is also open to medical students.

Aims of the International Master programme Integrated Immunology are

- Provide a comprehensive education in the field of immunology at the interface between biology and medicine.
- Train international students with a very good supervision, including small group teaching and modern teaching concepts such as problem-based learning.
- Provide a research-oriented education, comprising both basic and clinical immunology

### 2. Structure of the degree programme

During the first semester, the students are trained in the module Basic Immunology (lectures, seminars, tutorials, 10 ECTS) and in an Integrated laboratory course (10 ECTS). There is a lecture and tutorial in Cell and Molecular Biology (5 ECTS) plus elective softskill courses (total 10 ECTS) in topics such as imaging, bio-informatics, computer programming or ethics of science.

The second semester provides the module Translational Immunology (lectures, seminars, tutorials, 10 ECTS) and an Integrated laboratory course in Translational Immunology (10 ECTS). A course in Clinical Immunology (5 ECTS) includes tutorials and bedside visits.

The third semester includes practical project work (15 ECTS) with lab rotations both in the labs in Erlangen, as well as in an organised 3-month visit to one international immunology lab abroad. A theoretical project (10 ECTS) has to be done over the whole semester, resulting in a

short written report and a presentation. There are additional modules as participants at spring or autumn schools of immunology or other graduate schools (5 ECTS).

The student spends the fourth semester with the Master thesis and the defense of it (30 ECTS).

### 3. Admission requirements

Applicants are required to have a Bachelor's degree (or equivalent qualification) in Biology, Biochemistry, Life Sciences or a similar Bachelor degree with grade 2,5 or better (or equivalent international grade).

#### Admission test

Applicants will be invited for an oral examination to test the suitability of the applicant for the Master Integrated Immunology. Duration of the test is 15 Minutes. The topics of this examination will be basic knowledge in molecular biology, cell biology and genetics (50%). Furthermore, knowledge in a specific topic in immunology, virology, molecular biology, cell biology or microbiology (as chosen by the applicant), will be examined (25%). In addition the applicants are asked to prove their ability to use scientific and analytical methods (25%).

The admittance committee of the MSc programme will do the examination. The examination date will be announced at least one week in advance. It is possible to take the admission test through videophone. The applicants have to bear the arising expenses by themselves.

#### Language requirement

The required English level is “Vantage or upper intermediate” level (B2) according to the Common European Framework of Reference for Languages, or an equivalent score in an internationally recognised test, eg. IELTS 5.5, TOEFL pbt 552. Six years of English lessons at a German Gymnasium shall also suffice as proof; applicants whose native language is English need not submit any such proof. Proof of German proficiency is not required. However, we strongly recommend non-German speaking students to attend German language classes during the MSc studies.

#### Application documents

- Secondary education certificate
- University degree certificate with transcript of records
- CV
- Proof of English proficiency at level B2 according to the Common European Framework Reference for Languages
- Motivation letter

#### Address for application

Applications for the MSc Integrated Immunology shall be submitted online via [www.campo.fau.de](http://www.campo.fau.de). All documents required for the application must be sent by post to the

Master's Office (Masterbüro) [3]. The application deadline is 15th of July. For international applicants we strongly recommend to apply until 31st of May for the upcoming winter semester (starting in October).

Send application documents to the following address:  
Friedrich-Alexander-Universität Erlangen-Nürnberg  
Referat L4 – Masterbüro  
Schlossplatz 4  
91054 Erlangen  
Germany

#### 4. Career prospects

The Master's programme has a clear research focus and qualifies participants for a PhD at a University or for scientific work in research institutions. Through the participation in a winter school in immunology, international conferences, and meetings with professors and scientists working in companies, the students will learn to identify future career options and how to use their network to find a position of interest.

#### 5. Adresses

##### Department of Biology

Stadstr. 5, 91058 Erlangen  
[www.biologie.fau.de](http://www.biologie.fau.de)

##### Study Service Center

###### Dr. Susanne Morbach

Department of Biology, Friedrich-Alexander-Universität Erlangen-Nürnberg  
Stadstraße 5, 91058 Erlangen, Room A2-02.183  
Tel. 09131 – 85 22011, E-Mail  
[susanne.morbach@fau.de](mailto:susanne.morbach@fau.de)

##### Student advisory service

###### Prof. Dr. Falk Nimmerjahn

(Academic counseling)  
Department of Biology,  
Friedrich-Alexander-Universität Erlangen-Nürnberg  
Erwin-Rommelstr. 3, 91058 Erlangen, Room 02.136/137  
Tel. 09131 - 85- 25050, E-Mail:  
[falk.nimmerjahn@fau.de](mailto:falk.nimmerjahn@fau.de)

#### General advice

Student Advice and Career Service (IBZ)  
Schlossplatz 3, 91054 Erlangen, Information desk: room 0.021  
Phone: +49 9131 8523333 or +49 9131 8524444  
Office hours: Mon–Wed 8.00 a.m.–4.00 p.m.  
Thu 8.00 a.m.–6.00 p.m.; Fri 8.00 a.m.–2.00 p.m.  
E-mail: [ibz@fau.de](mailto:ibz@fau.de)

#### Examinations representative

E-Mail: [ref-13@zuv.uni-erlangen.de](mailto:ref-13@zuv.uni-erlangen.de)

#### More information online

- [1] **Homepage of FAU:** [www.fau.de](http://www.fau.de)
- [2] **Detailed information on the MSc programme:**  
[www.biologie.nat.fau.de/studium/vor-dem-studium/integrated-immunology/](http://www.biologie.nat.fau.de/studium/vor-dem-studium/integrated-immunology/)
- [3] **Information on application for Master's degree programmes:** [www.master.fau.de](http://www.master.fau.de)
- [4] **BERUFEnet (Information on job profiles):**  
<http://berufenet.arbeitsagentur.de/berufe>
- [5] **FAU course catalogue:** [www.vorlesungsverzeichnis.fau.de/form#remembertarget](http://www.vorlesungsverzeichnis.fau.de/form#remembertarget)
- [6] **Examination regulations:** [www.fau.de/studium/im-studium/pruefungen-studienordnungen/](http://www.fau.de/studium/im-studium/pruefungen-studienordnungen/)

## Appendix 1: Structure of the Integrated Immunology Master's degree programme

Semester	<b>Master of Science Integrated Immunology</b>			
1	<b>Basic Immunology</b> Lectures, Seminars and Tutorials 10 ECTS	<b>Integrated Laboratory Course</b> Basic Immunology 10 ECTS	<b>Cell-and molecular biology</b> Tutorials 5 ECTS	<b>Softskills (elective)</b> imaging, bioinformatics, animal sciences, genetic engineering clinical study design <b>summerschool</b> total 10 ECTS
2	<b>Translational Immunology</b> Lectures, Seminars and Tutorials 10 ECTS	<b>Integrated Laboratory Course</b> Translational Immunology 10 ECTS	<b>Clinical Immunology</b> Tutorials, Bedside Visits 5 ECTS	
3	<b>Practical project work</b> Laboratory rotations including international laboratories, coordination by professor 1:1 with student 15 ECTS	<b>Theoretical project work</b> develop a research project 1:1 with professor, presentation during research weekend 10 ECTS	<b>Becoming a scientist</b> winter school, international meetings, meet the professor, graduate school committee 5 ECTS	
4	<b>Master thesis incl. defense</b> 30 ECTS			

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