Master in Biochemistry

Welcome to the Department of Biochemistry of the LMU and the Genecenter!

Introduction and guide to the program
- 4 semester program (max. 7 semester)
- Faculty of Chemistry (Dept. Biochemistry)/ Faculty of Biology
3 Blocks: 120 ECTS

- Mandatory: Biochemistry 45 ECTS
- Mandatory: Options 45 ECTS
- Thesis: 30 ECTS
3 Blocks: 120 ECTS

• 1. Mandatory: Biochemistry   45 ECTS

• 2. Options: a second major subject plus one extension topic
  or 3 extension topics   45 ECTS

• 3. Thesis: 26 weeks (practical work and written work)   30 ECTS

- Each block contains several modules
- „Module“: package of (usually) multiple courses
Block 1 - Mandatory subject: Biochemistry
45 ECTS

• 5 Modules:

• 1. Practical course Biochemistry including seminar P1 (15 ECTS)
• 2. Lectures: BC 5, BC 6, BC 7 P2 (9 ECTS)
• 3. Data analysis (block course with exercises) P3 (6 ECTS)
• 4. Colloquia/Seminar P4 (6 ECTS)
• 5. Practical course in Methods in Life Sciences P5 (9 ECTS)
  (includes seminar)
Block 2 - Optional subjects: choices! 45 ECTS

2 possible combinations:

• 1. Major subject (30 ECTS) plus 1 extension topic (15 ECTS)

• 2. three extension topics (45 ECTS)
  (see list of extension topics)
Major subject 30 ECTS:
3 lectures (9 ECTS) + practical course (15 ECTS) + seminar/colloquia (6ECTS)

Major subjects can be
1. Chemistry:
   • organic
   • anorganic
   • physical
   • theoretical chemistry

2. Biology:
   • cell biology
   • microbiology
Extension topics 15 ECTS:
2 lectures (6 ECTS) + practical course (9ECTS)

Dept. of Biochemistry
• Molecular and cellular genetics
• Structural biology
• Innate immunity and inflammation (!)

Dept. of Chemistry
• Inorganic chemistry
• Organic chemistry
• Physical chemistry
• Theoretical chemistry
• Chemical biology

Faculty of Biology
• Cell Biology
• Microbiology
• Genetics
• Human biology
• Molecular plant sciences
• Virology
• Fundamentals of Neuroscience

Faculty of Informatics
• Informatics (taught in German)

Faculty of Medicine
• Immunology
Block 3 – Master thesis  30 ECTS

- **Prerequisites**: all modules of block 1 (biochemistry) except the seminar/colloquia module P4 need to be passed prior to start of thesis

- **Duration**: 26 weeks (lab work and written work), no extension possible

- **Registration**: fill in form from website, hand in with Johanna Turck

- **External thesis**: + proposal, needs to be accepted by head of program
  + “external” means: labs that are not part of the Faculty of Chemistry (Dept. Chemistry and Biochemistry) or the Faculty of Biology
  + note: some labs at the Genecenter are **not** part of the Faculty of Chemistry!!
- **Hand in:** 2 copies of your thesis: one with („internal“)supervisor, one with Johanna Turck

- **Declaration:** work was done all by yourself with the given means, signature!

- **Certificate:** + date of certificate is the date of your last grade received
  + after grading of thesis work/last grade it will take around 2 weeks
    to generate certificate
  + students will be informed by email when certificate is ready
Ins and outs....Lecture modules

**Module exams** (written or oral):
**cover 3 lectures** for main topics/ **2 lectures** for extension topics in one exam

Exceptions:
1. Structural Biology (Dept. Biochemistry),
   Structural Biology 1 is a module by itself, is prerequisite for practical course

2. Human Biology (Faculty of Biology)
3. Neuroscience (Faculty of Biology)
4. Virology (Faculty of Biology)
   - these subjects are embedded in other programs of the Faculty of Biology,
     two single exams, mean value

5. Immunology (Faculty of Medicine)
Module exams at the Dept. Biochemistry: written exams
-> registration per LSF (Webpage from LMU, login with your campus email address)

Module exams at the Dept. Chemistry: oral exams!!
-> registration at the examination office Dept. Chemistry, House F, room 5.02
   registration only during announced registration periods, check website

Module exams in the Faculty of Biology: written exams
-> inquire at the respective office for the particular subject
   (Prof. Jung for Microbiology, Prof. Böttger for cell biology,
    Prof. Leonhardt/Dr. Meilinger for Human biology etc.)
Ins and outs......practical courses modules

- **selforganized** practical courses: in research groups
  - Biochemistry (P1), Methods in Life Sciences (P5)
  - Cell biology, Microbiology
  - Chemistry subjects...

- **preorganized** block courses:
  - Molecular and cellular genetics (Dept. Biochemistry)
  - Structural biology
  - Innate immunity and Inflammation
  - Human biology (Faculty Biology)
  - Immunology (Faculty Medicine)
Duration practical courses:
6 wks/ 8 wks main subjects (15 ECTS)
3/ 4 wks extension topics (9 ECTS)

Rules:
- P1, P5 and practical in second major topic need to be done in different labs
- if P5 and Master thesis or practical extension topic and Master thesis are done in the same lab -> separation of projects, no continuation

External practical courses:
-“external“ means: in groups outside Dept. Biochemistry/ Dept. Chemistry/ Faculty Biology
- require acceptance of a proposal, signed by head of program
Module P4: Seminar and colloquia

- P4 Seminar: 1-2 day block, announced on website registration with teacher

- P4 Colloquia: list of 20 talks attestation of attendance by signature of organizing Professor currently only online per zoom (Corona)
Rules....

- duration of practical courses: 6 / 8 weeks for „big“ practical courses
  3 / 4 weeks for extension topics

- practical course in Biochemistry (P1) and/or practical course of optional major subject not in the same lab of Bachelor thesis (only for students with a Bachelor from the LMU)

- practical course in Biochemistry and/or optional major subject and Methods in Life sciences not in the same lab

- module exam: once passed it can be taken one more time to improve grade on the next offered exam date
Recommendations....

- data analysis module (P3): do very early, 25 spots available

- start listening to scientific talks (colloquia) early on

- read the information on our website!!
Information and Registrations

- Information: website Genecenter [www.genecenter@lmu.de](http://www.genecenter@lmu.de)
  + please scroll down!
  + explains structure of program, has information on all subjects
  + links you to other platforms, LSF and Moodle
    LSF= LehreStudiumForschung = TeachingStudiesResearch)

- Registrations:
  + preorganized practical courses in subjects of Dept. Biochemistry ➔ register via moodle
  + module exams of Dept. Biochemistry ➔ register via LSF
  + module exams of Dept. Chemistry ➔ oral exams, register at the examination office
    Dept. of Chemistry, House F, room 5.020

  + all other courses/lectures outside Faculty Chemistry: ask in the respective Faculties!
Contacts

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Head of Genecenter: Prof. Dr. Karl-Peter Hopfner

Professors in the Department of Biochemistry and Genecenter:
Profes. Beckmann, Förstemann, Hopfner, Hornung, Jae, Stigler, Stingele