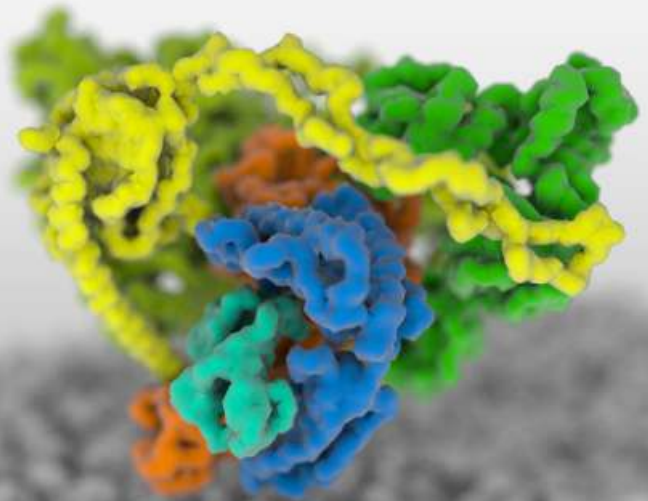




MOLECULAR SCIENCES
FACHBEREICH 14
biochemie
chemie
pharmazie

Master program Biochemistry A guide



Winter semester 2025/26

PO 2024

INTRODUCTION AREA

3 CP

I1 Study course overview (3 SWS | 3 CP):

Welcome Event S (1|1) & Introd. research groups S (2|2)

PROGRAM STRUCTURE MASTER BIOCHEMISTRY

Exemplary course plan & Course schedule see last page

S in total 120 CP

compulsory module**coursework**

(SWS | CP)

(L = Lecture, S = Seminar, P = Practical course, T = Tutorial, Pro = Project, V = Vorlesung, Ü = Übung)

CORE AREA min. 38 CP**CORE AREA 1: Cellular & Organismic Biochemistry (8-27 CP)***at least 2 modules***C1.1 Advanced Cell Biology (4-6 SWS | 5-8 CP):**

L (2|3) + P (2|2) or/and S (2|3)

C1.2 Cellular and Molecular Neurobiology (4-6 SWS | 5-8 CP):

L (2|3) + P (2|2) or/and S (2|3)

C1.3 Cellular Biochemistry (2 SWS | 4 CP):

L + self study (2|4)

C1.4 Infection and Pathobiology (4-6 SWS | 6-8 CP):

S (2|4) & L (2|2) or/and L (2|2)

CORE AREA 2: Molecular Biochemistry (6-24 CP)*at least 2 modules***C2.1 Advanced Methods in Biochemistry**

(2-4 SWS | 3-7 CP): L (2|3) & optional S (2|4)

C2.2 Membrane Biology (2-3 SWS | 4-5 CP):

L + self study (2|4) & optional S (1|1)

C2.3 Advanced Molecular Biology & Microbiology

(2-3 SWS | 3-5 CP): L (2|3) & optional S (1|2)

C2.4 Biological Synthesis (4 SWS | 7 CP):

S (2|4) L (2|3)

CORE AREA 3: Biochemical Methods (6-24 CP)*at least 2 modules & at least 1 practical module***C3.1 Methods for Structural Biology and Biophysics**

(2-4 SWS | 3-7 CP): L (2|3) & optional S (2|4)

C3.2 Advanced Methods in Membrane Biochemistry

(4 SWS | 5 CP): P Electrophysiology (2|2) & P Reconstitution (2|3)

C3.3 Advanced Methods in Biochemistry and Biophysics(1,5-5,5 SWS | 3-9 CP): *At least 2:*

P Solution-NMR (1|2) / P Mass Spectrometry (0,5|1) / P Solid-state NMR (1|2) / P X-Ray (1|2) / P Introduction to biological EM with image processing (2|2)

C3.4 Structural Bioinformatics (2 SWS|3 CP): L+T (2|3)**APPLIED RESEARCH**

34 CP

A1 Group Research Proposal S (2 SWS | 6 CP) : A2 Developing a research project Pro (8 CP)**A3 Research Internships I & II (2x30 working days | 20 CP)**

30 CP

A4 Master Thesis

6 months

ELECTIVE AREA: max. 15 CP (some imported modules are in German cf. title)**Focus Biochemistry****E1.1 Advanced biophysical methods (4 SWS | 5 CP):** S (2|3) + P (2|2)**E1.2 Solid state NMR spectroscopy (4-7 SWS| 7-10 CP):**

L (2|4) + P (3|3) and/or S (2|3)

E1.3 Liquid-state NMR spectroscopy (4-7 SWS | 6-9 CP):

L (2|3) + L (2|3) and/or P (3|3) and/or S (2|3)

E1.4 EPR spectroscopy (4-7 SWS | 7-10 CP): L (2|4) + P (3|3) or/and S (2|3)**E1.5 Einzelmolekülspektroskopie und hochauflösende Mikroskopie**

(4 SWS|6 CP): V (2|4) + Ü (2|2)

E1.6 Biophysik (2-12 SWS | 3-15 CP)

V1 + Ü (2,5+1,5|5) or V2 (2|3) optional S (2|3) und/oder P (4|4)

E1.7 Röntgenstrukturanalyse (3-7 SWS | 5-9 CP): V (3|5) optional P (4|4)**E1.8 Modeling and simulation of biomolecules (2+2 SWS | 6 CP):** L + T**E1.9 Struktur + Funktion v. Biomakromolek. (4 SWS | 7 CP):** V (3|5) + Ü (1|2)**E1.10 Statistics and Data analysis (3 SWS | 4 CP):** L + T**E1.23 iGem (2-4 SWS | 3-7 CP):** Project development (2|3) + Project implemtentation (2|4)**E1.5 Adv. Bottom-up Synthetic Biology (2 SWS|4 CP):** S (2|4)**Focus Chemistry****E1.11 Fortgeschrittene Organische**

Chemie (3 SWS | 5 CP):

V (2|3) + Ü (1|2)

E1.12 Chemische Naturstoff-

synthese (4 SWS | 7 CP):

V (3|5) + Ü (1|2)

E1.13 Chemie der Heterozyklen

(3 SWS | 5 CP): V (2|3) + Ü (1|2)

E1.14 Highlights der Organischen

Chemie & Chemischen Biologie

(2 SWS | 4 CP): S

E1.15 Laserchemie (3 SWS | 5 CP):

V (2|3) + Ü (1|2)

Focus Biology**E1.16 Molecular Biosciences**

(4 SWS | 6CP): 4 x L (1|1,5) out of 6

E1.17 Toxikologie & Ökologie

(4 SWS | 6 CP): 2 aus 3 V (2|3)

E1.18 Fortgeschrittene Chem.

Biologie (2 SWS | 5 CP): V + Ü

E1.19 Fortgeschr. Chem. Bio – Pra.

(4 SWS | 6 CP): P (3,5|5) + S (0,5|1)

Focus Pharmacology**E1.20 Pharmacology (4 SWS | 6 CP):** S**E1.21 Computational drug design**

(4 SWS | 5 CP): L (2|3) + P (2|2)

E1.22 Wirkstoff-/Arzneimittelentwickl.(2,5-4 SWS | 5-6 CP): *Medizialchemie od.**Biochemie* V (2|3) + S (0,5|2) opt. S (1,5|1)**Free elective area max. 10 CP****E2.1 Schlüsselqualifikationen**

(2-6 SWS | 3-9 CP): S

· Mentoring/Tutoring (2|3),

· Patentrecht (2|3),

· Scientific English (2|3),

· Deutsch als Fremdsprache (2|3)

E2.2 Wirtschaftswissen-

schaften (3-9 SWS | 5-15 CP):

V+Ü:

· Einführung in die VWL (5 CP)

· Accounting (5 CP)

· Marketing 1 (5 CP)

· Finanzen 1 (5 CP)

· Politik und Wirtschaft (5 CP)

· Mikroökonomik 1 (10 CP)

on request every other GU module

MASTER PROGRAM BIOCHEMISTRY

GENERAL INFORMATION

The 4-semester Master's degree course in Biochemistry addresses graduates of biochemistry or related natural science Bachelor's degree courses, expands their skills and enables individual specialization. The content ranges from cellular biochemistry, membrane proteins to structural biology, molecular biophysics over optogenetics and provides students with a broad, research-oriented education at a high level as well as the opportunity to set their own specializations. In particular, they learn about the structural, kinetic and dynamic relationships between individual molecules, complex molecular interaction networks, cells and organisms, as well as the theory and practice of state-of-the-art methods for analyzing biochemical issues.

The degree program is derived from the Frankfurt tradition in membrane protein research, structural biology and the study of macromolecular complexes as well as research into communication and transport across and through cell membranes. It is integrally linked to the local research environment to ensure a high level of education, which also involves non-university institutions such as the Max Planck Institute of Biophysics and the Paul Ehrlich Institute as well as lecturers from industry.

The study program allows you to set your own priorities, as flexibility is a key concept in the program: You can tailor your studies to your personal interests and career aspirations by choosing the courses that really interest you. In the Core Area you set your own priorities in Cellular & Organismic Biochemistry, Molecular Biochemistry and Biochemical Methods. Innovative teaching methods such as the independent development of research projects and the research internships allow further individual specialization.

The elective modules extend the choice from biochemistry to chemistry, biology, pharmacology, patent law, economic sciences etc or you can choose any module offered by Gothe University.

Mobility windows during your studies furthermore enable you to integrate external research internships - even abroad.

PROGRAM STRUCTURE

The master program biochemistry consists of the Introduction area (I1 | 3 CP), the three Core Areas (C1/C2/C3 | at least 38 CP): Cellular & Organismic Biochemistry (C1 | 8-27 CP), Molecular Biochemistry (C2 | 6-24 CP) and Biochemical Methods (C3 | 6-24 CP), where at least 2 modules must be chosen from each core area (in C3, this must include at least 1 practical module), the Elective Area (E | max. 15 CP), the Applied research (34 CP) with the Group research proposal A1, Developing a research project A2 and two 30-day Research internships A3 and the Master thesis (A4 | 30 CP).

The modules Introduction area, the Research internships and the Elective Area conclude with a coursework only. The modules of the Core Area, the Group research proposal A1 and Developing a research project A2 conclude with a final examination and a grade. The overall grade is formed, according to their CPs, by the grades of the module A1, A2, the master thesis and at least 38 CPs of the modules of the Core Areas.

The module handbook (www.uni-frankfurt.de/152395986/) provides information on the title and type of courses, semester hours per week (SWS) and credit points (CP), the frequency of the courses offered as well as the course content and forms of examination. In addition, the learning outcome and the skills acquired upon successful completion of the module are listed. It also lists the respective module coordinator for each module, who you should contact if you have any specific questions about it.

The type and form of the final module examination of the modules is indicated in *blue + italics*. Coursework beside experiments and the corresponding protocols is indicated in *italics*. Information and admission requirements are shown in *small + italics*.

offered in WS25/26

Prerequisite not met at the start of studies

INTRODUCTION AREA (3 CP)

- **I.1 Study Course Overview (3 SWS | 3 CP | Dr. Liewald)**
Welcome event (1 SWS | 1 CP) *First two days of semester as a block event. Mandatory!*
Presentation of the bachelor thesis
Introducing the research groups (2 SWS | 2 CP) *Mandatory!*
Paper presentation

CORE AREA (min. 38 CP)

Upon completion of the two compulsory modules per core area, further modules can also be chosen.

CORE AREA 1: Cellular & Organismic Biochemistry (at least 2 modules)

- **C1.1 Advanced Cell Biology (4-6 SWS | 5-8 CP | Prof. Gottschalk)**
The lecture must be combined with either the seminar (CEM) or/and the practical course (CEM).
Lecture Advanced cell biology (2 SWS | 3 CP)
Written or oral exam
CEM: Seminar Current topics in cell biology (2 SWS | 3 CP)
Presentation (A very good seminar presentation can improve the grade of the final exam by 0.3 or 0.7.)
CEM: Practical course Cell biology (2 SWS | 2 CP) *Written exam of the lecture (two week block in Lecture-free period, 5 days/student)*
Protocol
- **C1.2 Cellular and Molecular Neurobiology (4-6 SWS | 5-8 CP | Prof. Gottschalk)**
The lecture must be combined with either the seminar (CEM) or/and the practical course (CEM).
Lecture Cellular and molecular neurobiology (2 SWS | 3 CP)
Written or oral exam
CEM: Current topics in cellular and molecular neurobiology (2 SWS | 3 CP)
Presentation
CEM: Practical course Basic cell- and neurobiological experiments (2 SWS | 2 CP) *(one week block sep.)*
Protocol
- **C1.3 Cellular Biochemistry (2 SWS | 4 CP | Prof. Tampé)**
Lecture + self-study Cellular biochemistry (2 SWS | 4 CP)
Oral exam
- **C1.4 Infection and Pathobiology (4-6 SWS | 6-8 CP | Prof. Tampé)**
The seminar must be combined with at least one of the lectures (CEM) or optionally both.
Seminar Immunology (2 SWS | 4 CP) *(2 day block seminar in March)*
Presentation (A very good seminar presentation can improve the grade of the final exam by 0.3.)

Lecture Molecular virology (2 SWS | 2 CP)

Cumulative: Written or oral exam

Lecture Tumor biology (2 SWS | 2 CP)

Cumulative: Written or oral exam

CORE AREA 2: Molecular Biochemistry (at least 2 modules)

- **C2.1 Advanced Methods in Biochemistry (2-4 SWS | 3-7 CP | Prof. Tampé)**

The lecture can optionally be combined with the seminar.

Lecture Advanced methods in biochemistry (2 SWS | 3 CP) (first half of semester till xmas)

Oral exam

Optional: Methods seminar (2 SWS | 4 CP) (second half of semester after xmas)

Presentation (A very good seminar presentation can improve the grade of the final exam by 0.3.)

- **C2.2 Membrane Biology (2-3 SWS | 4-5 CP | Prof. Hänel)**

The lecture can optionally be combined with the seminar.

Lecture + self study Membrane biology (2 SWS | 4 CP)

Oral exam

Optional: Seminar Current research in membrane biology (1 SWS | 1 CP)

- **C2.3 Advanced Molecular Biology & Microbiology (2-3 SWS | 3-5 CP | Prof. Hänel)**

The lecture can optionally be combined with the practical course.

Lecture Advanced molecular biology & microbiology (2 SWS | 3 CP)

Written exam

Optional: Seminar Molecular microbiology (1 SWS | 2 CP)

Protocol

- **C2.4 Biological Synthesis (4 SWS | 7 CP | Prof. Grininger / Dr. Berchtold)**

Seminar Biological synthesis (2 SWS | 4 CP)

Lecture Structural biological aspects + pharmac. development of biomacromolecules (2 SWS | 3 CP)

Oral exam **Make an individual appointment with the examiner.**

CORE AREA 3: Biochemical Methods (at least 2 modules & at least 1 practical modules)

- **C3.1 Methods for Structural Biology and Biophysics (2-4 SWS | 3-7 CP | Prof. Glaubitz)**

The lecture can optionally be combined with the seminar.

Lecture Methods for determining the structure of biomolecules (2 SWS | 3 CP)

Oral exam

Optional: Seminar Methods for determining the structure of biomolecules (2 SWS | 4 CP)

Presentation

- **C3.2 Advanced Methods in Membrane Biochemistry (4 SWS | 5 CP | Dr. Liewald)**

1. Electrophysiology (2 SWS | 2 CP) (two week block in March, 3 days / student)

2. Reconstitution of a membrane protein (2 SWS | 3 CP) (three week block begin of lecture period, 5 days / student)

Protocols (ungraded)

- **C3.3 Advanced methods in biochemistry and biophysics** (1,5-5,5 SWS | 3-9 CP | Prof. Glaubitz)
Module C3.1 must be completed. At least 2 of the experimental parts must be taken.
 1. solution NMR (1 SWS | 2 CP) *(2 days / student)*
 2. Mass spectrometry (0,5 SWS | 1 CP) *(1 day / student)*
 3. Solid-state NMR (1 SWS | 2 CP) *(two week block in may, 1 day / student)*
 4. X-ray structure (1 SWS | 2 CP) *(5 days / student)*
 5. Introd. to biol. electron microscopy with image processing (2 SWS | 2 CP) *(one week block)**Protocols (ungraded)*
- **C3.4 Structural Bioinformatics** (2 SWS | 3 CP | Prof. Güntert) *(7 day / student, block in semester)*
 Lecture + tutorial Programming for biochemists & Structural bioinformatics (2 SWS | 3 CP)
Written exam

APPLIED RESEARCH (34 CP)

- **A1 Group Research Proposal** (2 SWS | 6 CP | Prof. Tampé)
 Seminar Group research proposal (2 SWS | 6 CP)
Presentation & discussion in groups
- **A2 Developing a Research Project** (8 CP | Dr. Abele) *Modul Group Research Proposal A1 must be completed.*
 Project Developing a research project (8 CP) *Submission deadline 31.01. or 30.06.*
Cumulative: Proposal
Cumulative: Presentation of the proposal
Cumulative: Oral exam (colloquium) on the proposal
- **A3 Research Internships I und II** (30+30 working days | 10+10 CP)
Cumulative: Practical activity and protocol are evaluated equally
A grade is formed from both parts as an overall assessment.
Only the grade of the better graded research internship is counted for the overall master grade.

Only one research topic is to be addressed within a research internship and a protocol must be written.

The internships must be registered by using the form beforehand at the examination office!

One internship should be in one of the biochemistry working groups of the departments and institutes of Goethe University directly involved in the degree programme. This also includes the MPI for Biophysics and working groups at thePEI, which are included in the list approved by the Biochemistry Study Commission (www.uni-frankfurt.de/81331711/).

Internships in the Chemistry and Pharmacy teaching units, at Faculty 13 (Physics) or Faculty 15 (Biosciences) are considered internal, if a topic of biochemistry or biophysical chemistry is covered.

If an internship is completed externally, outside the working groups involved in the degree programme, e.g. at Faculty 16 (Medicine), in industry or abroad, a university lecturer from the Biochemistry teaching unit must also act as supervisor. This supervisor must be consulted in advance to determine the topic.

Both internships can also be combined into a 12 week internship.

ELECTIVE AREA (max. 15 CP)

In the elective area, modules or courses totalling a maximum of 15 CP (including the max. 10 CP of the FREE ELECTIVE AREA) must be completed. In addition to the compulsory elective modules listed below, modules or sub-modules from other teaching units and departments of the Goethe University can also be admitted. For admission, a module description must be submitted to the Examinations Office before starting the module. In accordance with the relevant regulations of the department offering the module, as amended from time to time, it contains the attendance/performance records to be provided as well as the credit points awarded for the modules. For the recognition of sub-modules, it is recommended to clarify with the lecturers at the beginning of the course under which circumstances proof of performance can be provided.

The elective modules conclude with a coursework. Some imported modules are in German, see module title for ref.

Focus Biochemistry

- **E1.1 Advanced Biophysical Methods (4 SWS | 5 CP | Prof. Dötsch)**
Seminar Advanced biophysical methods (2 SWS | 3 CP) *SoSe*
Practical course Advanced biophysical methods (2 SWS | 2 CP) *SoSe*
Experiments and writing a protocol. Expert discussion (30 min.)
- **E1.2 Solid State NMR Spectroscopy (4-7 SWS | 7-10 CP | Prof. Glaubitz)**
The Lecture (compulsory) as well as another course Practical Course and/or Seminar (CEM) must be attended. The seminar is part of the modules E1.1, E1.2 and E1.3. It can only be scored once.
Lecture Introduction to solid-state NMR spectroscopy (2 SWS | 4 CP) *SoSe*
Expert discussion Make an individual appointment with the examiner.
CEM: Practical course Solid-state NMR spectroscopy (3 SWS | 3 CP) *SoSe Compulsory part*
Protocol
CEM: Seminar Modern appl. of magn. resonance spectr. (2 SWS | 3 CP) *WS+SoSe Compulsory part*
Paper with presentation
- **E1.3 Liquid-state NMR Spectroscopy (4-7 SWS | 6-9 CP, Prof. Schwalbe)**
The Lecture „Mathematical basics...“ (compulsory) as well as another course Lecture / Practical Course / Seminar (CEM) must be attended. Maximum two elective subjects. The seminar is part of the modules E1.1, E1.2 and E1.3. It can only be scored once.
Lecture Mathematical basics of NMR spectroscopy (2 SWS | 3 CP) *Block course Apr+May*
Expert discussion Make an individual appointment with the examiner.
CEM: Lecture Deepening of the mathematical foundations of NMR spectroscopy
(2 SWS | 3 CP) *Block course Oct+Nov Compulsory part*
Expert discussion Make an individual appointment.
CEM: Practical course NMR intensive course (2 weeks) (3 SWS | 3 CP) *Block course end of March*
Expert discussion on the protocol
CEM: Seminar Modern appl. of magn. resonance spectr. (2 SWS | 3 CP) *WS+SoSe Compulsory part*
Paper with presentation
- **E1.4 EPR Spectroscopy (4-7 SWS | 7-10 CP | Dr. Kuzhelev)** *Lecture (compulsory) as well as another course Practical Course/Seminar (CEM) must be attended. The seminar is part of the modules E1.1, E1.2 and E1.3. It can only be scored once.*
Lecture Theory of electron paramagnetic resonance spectroscopy (2 SWS | 4 CP) *WS*
Expert discussion Make an individual appointment with the examiner.
CEM: Practical course electron paramagnetic resonance spectroscopy (3 SWS | 3 CP) *SoSe Compul. part*
Protocol
CEM: Seminar Modern appl. of magn. resonance spectr. (2 SWS | 3 CP) *WS+SoSe Compulsory part*
Paper with presentation

- **E1.5 Einzelmolekülspektroskopie und hochauflösende Mikroskopie** ^{WS}
(4 SWS | 6 CP | Dr. Dietz)
Vorlesung + Übung Einzelmolekülspektroskopie und hochaufl. Mikroskopie (2+2 SWS | 4+2 CP)

Klausur Anmeldung: 7 Tage vorher, Rücktritt 2 Werktage

- **E1.6 Biophysik (2-12 SWS | 3-15 CP | Prof. Bredenbeck)**

Die Vorlesungen können unabhängig voneinander besucht werden. Seminar oder/und Praktikum sind optional.

WPF: Vorlesung + Übung Biophysik 1 (Einführung in die Biophysik) (2,5+1,5 SWS | 5 CP) ^{WS}

Klausur Anmeldung: 7 Tage vorher, Rücktritt 2 Werktage *oder Fachgespräch*

Optional: Seminar Biophysik I (2 SWS | 3 CP) ^{SoSe} Prüfung zu einer der Vorlesungen

Präsentation

Optional: Praktikum Biophysik I (4 SWS | 4 CP) ^{WS} Prüfung zu „Einführung in die Biophysik“

Protokolle + Versuche

WPF: Vorlesung (Bio-)molekulare Dynamik (2 SWS | 3 CP) ^{SoSe}

Klausur Anmeldung: 7 Tage vorher, Rücktritt 2 Werktage *oder Fachgespräch*

- **E1.7 Röntgenstrukturanalyse (3-7 SWS | 5-9 CP | Prof. Piepenbring)**

Vorlesung Röntgenstrukturanalyse (3 SWS | 5 CP) ^{WS}

Klausur Anmeldung: 7 Tage vorher, Rücktritt 2 Werktage

Optional: Praktikum Röntgenstrukturanalyse (4 SWS | 4 CP) Klausur zur Vorlesung

- **E1.8 Modeling and Simulation of Biomolecules (4 SWS | 6 CP | Prof. Hummer)**

Lecture + Tutorial Modeling and simulation of biomolecules (2+2 SWS | 3+3 CP) ^{SoSe}

Written exam Registration: 7 days before, Withdrawal 1 workday

- **E1.9 Struktur und Funktion von Biomakromolekülen (4 SWS | 7 CP | Prof. Grininger)**

Vorlesung + Übung OC IV - Struktur und Funktion v. Biomakromolekülen (3+1 SWS | 5+2 CP) ^{WS}

Klausur Anmeldung: 7 Tage vorher, Rücktritt 2 Werktage

- **E1.10 Statistics and Data Analysis (3 SWS | 4 CP | Dr. Köfinger)**

Lecture + Exercise Statistics and Data Analysis (2+1 SWS | 4 CP) ^{SoSe}

Written / Oral Exam Registration: 7 days before, Withdrawal 1 workday

NEW E1.23 iGEM (2-4 SWS | 3-7 CP | Dr. Ali) *It can be taken twice, both in Bachelor's or Master's programme.*

Either Project development (CEM) and /or Project implementation (CEM) can be taken.

CEM: S Project development (2 SWS / 3 CP) ^{WS}

CEM: Project + S Project implementation (2 SWS / 4 CP) ^{SoSe}

Cumulative: group presentation + presentation details in module description: www.uni-frankfurt.de/169763512/

NEW E1.24 Advanced Bottom-up Synthetic Biology (2 SWS | 4 CP | Dr. Chakraborty)

Seminar Advanced Bottom-up Synthetic Biology (2 SWS | 4 CP) ^{SoSe}

Presentation & discussion

Focus Chemistry

- **E1.11 Fortgeschrittene Organische Chemie (3 SWS | 5 CP | Prof. Göbel)**
Vorlesung + Übung Fortgeschrittene Organische Chemie (2+1 SWS | 3+2 CP) ^{SoSe}

Klausur Anmeldung: 7 Tage vorher, Rücktritt 2 Werktage

- **E1.12 Chemische Naturstoffsynthese (4 SWS | 7 CP | Prof. Göbel)**
Vorlesung + Übung Chemische Naturstoffsynthese (3+1 SWS | 5+2 CP) ^{SoSe}

Klausur Anmeldung: 7 Tage vorher, Rücktritt 2 Werktage

Seminar „Aktuelle Aspekte...“ ist optional; Max. 18 Teilnehmer*innen. Bei I. hat AMF Vorrang.

I. Vorlesung Wirkstoffdesign – Medizinalchemische Aspekte (2 SWS | 3 CP)^{WS+SoSe}

Seminar Case Study (0,5 SWS | 2 CP)^{WS+SoSe}

Präsentation

II. Vorlesung Wirkstoffdesign – Biochemische Aspekte (2 SWS | 3 CP)^{WS+SoSe}

Seminar Molekulare Mechanismen von Wirkstoffen (0,5 SWS | 2 CP)^{WS+SoSe}

Präsentation

Optional: Seminar Aktuelle Aspekte der pharmaz. Wissenschaften (1,5 SWS | 1 CP)^{WS+SoSe}

FREE ELECTIVE AREA (max. 10 CP) For other module cf. informations given under ‚Elective Area‘.

- **E2.1 Schlüsselqualifikationen/ Soft Skills (2-6 SWS | 3-9 CP | Dr. Lill)** *Vorabmeldung per Mail

Seminar Mentoring / Tutoring (2 SWS | 3 CP)^{WS}

Portfolio der Übungsstunden

Seminar Patentrecht, Gebrauchsmuster, Design, Marke: Gewerblichen Rechtsschutz (2 SWS | 3 CP)^{WS*}

Referat mit Präsentation

Seminar Scientific English (2 SWS | 3 CP)^{SoSe} Schriftliches Referat oder Präsentation

Seminar German for students with German as a foreign language (2 SWS | 3 CP)^{WS+SoSe*}

Mündliche Prüfung oder nach Festlegung

German courses

German course are offered by the ‚Internationales Studienzentrums (ISZ)‘. Enrollment obligation in QIS/LSF for all courses, deadline second week of lecture period. Recommendation:

- German courses (A1-B1) for Master students studying in English (4CP) uni-frankfurt.de/151831222/

- Online-Kurs: Einstieg in die Uni-Sprache III: Deutsch für Naturwissenschaftler (3 CP)

Complete list in QIS/LSF: ‚Vorlesungsverzeichnis‘, ‚Other Courses‘, ‚Internationales Studienzentrums‘, ‚Deutsch im Studium‘

- **E2.2/W.20 Wirtschaftswissenschaften (3-9 SWS | 5-15 CP | Fb02) Anmelde-/Rücktrittsfristen Fb02:**

I.d.R. die ersten 7 Wochen der Vorlesungszeit, siehe QIS/LSF). Anmeldung zur Prüfung erfolgt über das Prüfungsamt.

Vorlesung + Tutorium Einführung in die Volkswirtschaftslehre (OVWL) (3 SWS / 5 CP)^{WS+SoSe}

Vorlesung + Tutorium Accounting (OACC) (3 SWS | 5 CP)^{WS+SoSe}

Vorlesung + Tutorium Marketing 1 (OMAR) (3 SWS | 5 CP)^{WS+SoSe}

Vorlesung + Tutorium Finanzen 1 (OFIN) (3 SWS | 5 CP)^{WS+SoSe}

Vorlesung + Tutorium Philosophie, Politik und Wirtschaft (OPPE) (3 SWS | 5 CP)^{WS+SoSe}

Vorlesung + Tutorium Mikroökonomik 1 (OMIK) (6 SWS | 10 CP)^{WS+SoSe}

Kumulativ, je Klausur

MASTER THESIS (30 CP) (see also §38 Examination regulations)

In order to be able to apply for admission to the master thesis, **60 CP** must have been achieved in the Master program and your research proposal in the module *Developing a research project* must have been submitted.

The maximum time for the Master thesis is **six months**. The start of work is documented and the submission date is communicated in writing. Application is done via a form, **at the latest two weeks** before the start date at the examination office: www.uni-frankfurt.de/80796723/MSc-Arbeit.pdf

The second examiner is assigned by the Examinations Office, therefore the Examinations Office must be contacted before submitting the form. The signed form must be submitted to the Examinations Office.

- **Master thesis (6 months | 30 CP)** 60 CP

Written master thesis (usually approx. 70 pages, usually does not exceed approx. 90 pages)

Submission: In due time at the examination office OR by post (postmark).

Three written (bound) copies and a digital version (pdf by e-mail) must be submitted, in English or German, including an affidavit (www.uni-frankfurt.de/53134524/Eidesstattliche-Versicherung.pdf). If the thesis is written in German, a English summary must be part of the thesis.

IMPORTANT INFORMATION ABOUT THE MASTER'S EXAMINATIONS

Admission to the Master's examination:

You must apply for admission to the Master's examination (at the Examination Office) in the 1st semester. Application form: www.uni-frankfurt.de/80796710/Zulassung-Master.pdf
You can only register for the final module examinations with the examiner if you have been admitted.

Examination dates:

The dates for the final module or partial module examinations of each semester are announced electronically (www.uni-frankfurt.de/76868847/Prüfungshinweise).

Oral exams:

To register for the oral examination, you **must** register with the examiner's secretary before the examination date using the registration form for the respective exam. You may only take part in the exam if this form has been completed and signed. This also applies to repeating an examination! You can find the registration forms at: www.uni-frankfurt.de/76868966/Download

Written exams:

Written exams in modules from the biochemistry department are automatically registered upon taking the exam. No special registration is required

For some **import modules**, you must register **online** within the deadline via: gis.server.uni-frankfurt.de!
(cf. under 3. **in red** resp. in the module handbook under Organizational details in module description.)

Log in to QIS/LSF with your HRZ account. Under "My function / Administration of exams / Register for Exams" you can access the online registration. Your TAN list is required for each registration.

You can view your successful registrations under "My function / Administration of exams / Info on registered Exams". Respectively the registrations are also listed under "My function / Administration of exams / Summary of Grades".

To be absolutely sure about registrations and deregistrations you can also download a certificate "Information about registered examinations".

Information on online registration (German): www.rz.uni-frankfurt.de/43948665/20_Services_Studierende

If you have any problems, please contact the Examinations Office directly.

Withdrawal / deregistration:

Registration for oral exams (*for import modules also for written exams*) is considered final if it is not withdrawn at **least two working days before the examination date** (*other deadlines may apply for import modules*). If the registration is not withdrawn by then, the missed examination will be graded as "insufficient" (5.0).

Reasons for absence (e.g. illness) must be reported **immediately in writing** (university form www.uni-frankfurt.de/55081407/ or originally signed medical certificate) to the Examination Office.

Retake:

Failed final module or partial module examinations can be repeated **twice**. It is strongly recommended to retake the examination at the next possible regular date.

Grade improvement (joker):

Passed final module examinations or partial module examinations (not the Master's thesis) can be **repeated once** to **improve the grade**, whereby the better performance is taken into account. The retake must take place by the **end of the following semester**. If no examination is scheduled in the following semester, the deadline is extended by one semester. The free retake rule can be used a **maximum two times**. Registration for a retake to improve grades must be made **via the Examinations Office**.

DEADLINE:

The Master's examination (the complete master programm) must be successfully completed by the end of the **seventh semester** (plus semesters abroad and leave of absence).

Email-Account:

You received an email account when you enrolled. You should use this regularly, as we send information e.g. about exams via this email only. Furthermore the university is regularly blacklisted by commercial providers.

You can find instructions on how to set up an alias email address (instead of s123456@stud.uni-frankfurt.de) here: www.rz.uni-frankfurt.de/43920149/#a_4b6f42c3-3623076c

IMPORTANT ADDRESSES AND SOURCES OF INFORMATION

Study program:

Homepage of the study program: www.uni-frankfurt.de/76805906/Biochemistry

Program structure: www.uni-frankfurt.de/76861989/NEW_Program_structure_PO2024

Examination notes: www.uni-frankfurt.de/76868847/

Downloads (Registration & Forms): www.uni-frankfurt.de/76868966/Download

Study regulations for the Master's program in Biochemistry (PO2024):

Legally binding version in German: www.uni-frankfurt.de/153147737/Master_Biochemistry_2024_05_07.pdf

English translation: www.uni-frankfurt.de/174242317/Biochemistry_English_lesefassung.pdf

Module handbook: www.uni-frankfurt.de/152395986/Biochemistry.pdf

Information on Master thesis, research internships and the current list of approved working groups: www.uni-frankfurt.de/81331711/

Information on internships and studying abroad, funding, partner universities, Erasmus: www.uni-frankfurt.de/112448716/International

Advice & Support:

www.uni-frankfurt.de/76869113/AdviceSupport

Examination office Master Biochemistry:

Sylke Schemenau (Contact & Office hours: *see last page*)

Program Coordination Biochemistry:

Dr. Jana Liewald

Room: Buchmann Institute 1.628

Phone: 069/798-42513

Email: j.liewald@biochem.uni-frankfurt.de

FREQUENTLY ASKED QUESTIONS: www.uni-frankfurt.de/149556231/FAQ

Whom can I contact regarding my question/problem?

Please contact only one person at a time and don't send your request to a couple of people at a time! Your e-mail will definitely be read and if you accidentally don't send it to the person in charge it will be forwarded to that person in charge. Sending requests to several people will only make things more complicated.

Biochemistry-specific contacts

Info on a certain module: Please contact the respective module coordinator which is listed in the module handbook. You can find module coordinators and their contact details (phone number, e-mail address, website, location of office) for example via QIS/LSF. Either via the general search function "Search for Persons" by entering the name of the person you are looking for, or in the course overview under each course listing by simply clicking on their name under "Responsible Instructors".

Exams: Sylke Schemenau

Other formal study matters: Dr. Andreas Lill

Subject advisors: Prof. Gottschalk, Prof. Pos, Prof. Tampé

BaFöG: Prof. Güntert, Prof. Dötsch

Erasmus: Dominik Bajura, Prof. Glaubitz, Prof. Dötsch

Student council Biochemistry (help from other students): www.fachschafft-biochemie.de/fs-biochemie@em.uni-frankfurt.de

Other questions that don't fit into any of the above categories: Dr. Jana Liewald

General university contacts

Study application & general study information: www.goethe-university-frankfurt.de/124853772/

IT: IT-Service Center Riedberg: www.rz.uni-frankfurt.de/93761609/

Student campus software licenses: www.rz.uni-frankfurt.de/software

HRZ account: www.rz.uni-frankfurt.de/hrz-account

Goethe card: www.rz.uni-frankfurt.de/88876913/

Support services for students from abroad: International Student Services: www.goethe-university-frankfurt.de/124971977/

International Study & Language Centre: www.uni-frankfurt.de/43662305/ISZ

Student Mental Health Counseling Service (e.g. exam nerves, conflicts, mental disorders, suicidal thoughts, migration conflicts): www.goethe-university-frankfurt.de/124856482/

Where can I find information on the MSc Biochemistry? *see links page 10*

How can I register for modules/courses?

In the **Course catalogue QIS/LSF** you can find general information about all the current modules in the MSc Biochemistry, including a direct link to the respective OLAT course listed under "Additional Links".

Registration for modules is then done via **OLAT** (Online Learning And Training; see course link "Registration" or "Enrolment"). There you will also find more detailed information on the individual courses.

Is there compulsory attendance for courses?

There is compulsory attendance for seminars and practical courses. This information can also be found in detail in the module handbook under "Course requirements for credits".

For lectures we don't have a compulsory attendance. However, you will have to rework the topics taught on the dates you missed on your own. And of course it is always best to attend a lecture in person – you can interact with the lecturer and fellow students, directly ask questions if you don't understand something etc.

Do you provide online courses and Is there any online facility to take exams?

No.

What do I have to do to stay enrolled in the summer semester?

To stay enrolled in the summer semester, you just need to pay the semester fee for the summer term in time. You should receive a reminder from the university beforehand. Information can be found here: www.goethe-university-frankfurt.de/124884826/

When does the semester start?

Winter term starts on 1st October and ends on 30th March. Summer term starts on 1st April and ends on 30th September. The lecture periods start mid October til mid mid February and mid April till mid July. Dates for every semester: www.goethe-university-frankfurt.de/124931893/

Where can I access/change my personal data at Goethe university?

You can also access/alter your profile at Goethe University at the Goethe Campus Portal: www.goethe-campus.uni-frankfurt.de

Change of address / master data sheet / semester fees / certificate of enrollment:

You will find all these functions in the new university portal: goethe-campus.uni-frankfurt.de

IMPRINT

Dean's office Faculty 14 - Biochemistry, Chemistry and Pharmacy

Teaching and study advisor Dr. Andreas Lill

Phone: 069/798-29550

E-Mail: lill@uni-frankfurt.de

www.fb14.uni-frankfurt.de

COURSE SCHEDULE

You can find an overview timetable on the website www.uni-frankfurt.de/76862386/. It serves as a guide. The exact dates, further information and the OLAT links can only be found in QIS/LSF.

Language of QIS/LSF: Change to English by clicking on the flag in the top right. Via "course schedule in QIS-LSF" you can also browse through the timetable by week (dropdown menu Whole Term & click show).



Course schedule in QIS-LSF: Core Area + Compulsory

Course schedule in QIS-LSF: Elective Area



EXAMPLARY COURSE PLAN

Semester 1	I1. Study Course Overview (3 CPs) - Welcome Event - Interducing the research groups	Core area 1: Cellular & Organismic Biochemistry (at least 2 modules) Core area 2: Molecular Biochemistry (at least 2 modules)	Compulsory elective area (up to 15 CPs) Thereof up to 10 CPs in the free elective area	31 CPs
Semester 2	A1 Group Research Proposal (6 CPs)	Core area 3: Biochemical Methods (at least 2 modules, at least 1 practical course)		31 CPs
Semester 3	A2 Developing a Research Project (8 CPs)	A3 Research Internship I (10 CPs) - Optionally abroad (I+II)	A3 Research Internship II (10 CPs) - Optionally abroad (I+II)	28 CPs
Semester 4	A4 Master's thesis (30 CPs)			30 CPs

120 CPs

CONTACT

Examination office Biochemistry

Sylke Schemenau

Goethe University Frankfurt am Main

Max-von-Laue-Straße 9

60438 Frankfurt am Main

Building N101 Room 1.08 (above the Mensa)

Telephone: 069/798-29362, Telefax: 069/798-29546

Email: PruefungsamtFB14@uni-frankfurt.de

Office hours: Mo - Wed: 8:00-11:30 and 12:30-15:00

Thur + Fr: *Homeoffice (by telephone or mail)*



MOLECULAR SCIENCES
FACHBEREICH 14

biochemie
chemie
pharmazie