

MA MT at FAU | Claudia Barnickel







- □ Welcome by Heike Leutheuser
 - (Director Central Institute for Healthcare Engineering /ZiMT)
- □ Introduction to the program by Claudia Barnickel

(Study Coordinator and Advisor Medical Engineering)

□ Welcome by FSI Medizintechnik

(Student association Medical Engineering)

~ 3:00 pm - 3:30 pm: Coffee break



□ Introduction computer pools & creating your class schedule

(blue computer science tower, first floor)

□ Guided campus tour

(starting point: round bench in front of "Mensa" canteen, red square)

From 5:00 pm: get-together with drinks (same bench)



The diversity of Medical Engineering at FAU





Growth Market Medical Technology

- Increase in population and diseases
 - Demographical development until 2050: More people, longer life expectancy:

• Diabetes + 50 %

Dementia + 100 %

Infarction + 100 %

Stroke + 100%

 Cancer + 50 %

 Increasing demand for diagnostic and therapeutic treatment







Strategic Cooperation of Faculties for Interdisciplinary Research & Teaching

Medicine

Science

Engineering

50 Clinics and Institutes:

- Anatomy
- Medical Physics
- Molecular Medicine
- Nuclear Medicine
- Ophtalmology
- Physiology
- Radiology
- ...

60 Institutes/Chairs in 5 Departments:

- Experimental Physics
- Mathematics



58 Institutes/Chairs in 5 Departments:

- Chemical Biological Engineering
- Computer Science
- Electrical Engineering
- Materials Science
- Mechanical Engineering
- ...

Central Institute of Healthcare Engineering (ZiMT)



A: Neues HS-Gebäude, *Ulmenweg 18*

B: Audimax, *Bismarckstr.* 1

C: Anatomie, *Universitätsstr.* 19

D: Biochemie, Fahrstr. 17

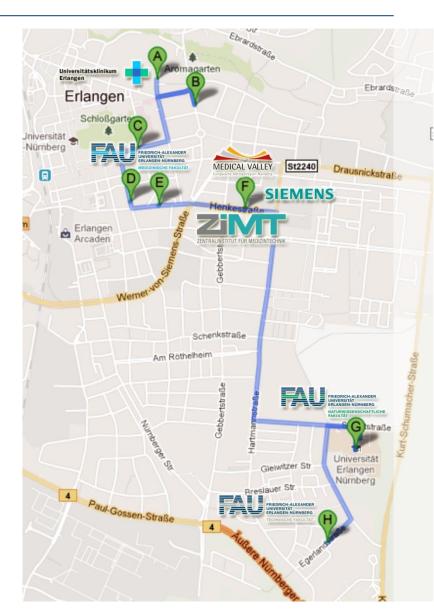
E: Organische Chemie, Henkestr. 42

F: ZiMT/MVC, Henkestr. 91

G: Physikum, *Staudtstr. 5*

H: Südgelände, Egerlandstr. 3

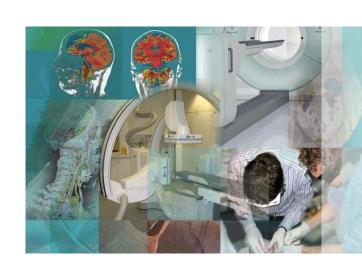
"Bicycle Distance"







Persons in Charge





Medical Engineering representatives

Program Director
 (Pattern Recognition Lab/Inf 5)
 Prof. Dr.-Ing. Andreas Maier



Directors ZiMT

Dipl.-Phys. Heike Leutheuser

Deputy: Dipl.-Ing. Tobias Zobel







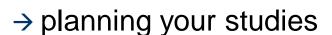
Study Coordinator and Advisor

Claudia Barnickel

blue computer science tower, 2nd floor, room 02.158

Open consultation hours (no appointment): Mon-Thu, 1-4 pm

Appointments: Claudia.Barnickel@fau.de



- accreditation of coursework achievements
- → support with formalities
- → all kinds of questions regarding your studies
- → personal problems





General Study Advisory

Informations- und Beratungszentrum (IBZ)

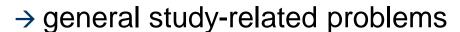
Elisabeth Bächle-Grosso

Halbmondstr. 6 -8

91054 Erlangen

Room: 1.031

elisabeth.baechle-grosso@fau.de



- → information about changing your study program
- → student visa issues (certificate for foreigners office)





 Examinations Office Faculty of Engineering

Prüfungsamt TechFak

Helga Jahreis

Halbmondstraße 6

91054 Erlangen

Room: 1.042

helga.jahreis@fau.de



- managing credits, grades, exams, hand in paper certificates ("Scheine")
- → withdrawal from exams (illness, psychological problems etc.)
- → report on conditional subjects/"Auflagen"



 International Office Faculty of Engineering/TechFak

Christine Mohr

Erwin-Rommel-Str. 60

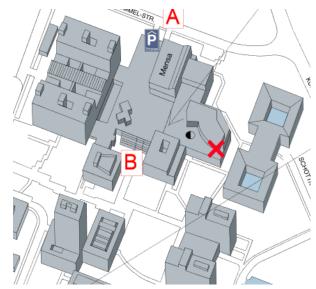
91058 Erlangen

Room: U 1.250

christine.mohr@fau.de

- → Info about studying/interning abroad
- → General help and support for international students







Career Service

Susanne Winkelmaier, Nicole Jakob, Stefanie Rösch

<u>career-service@fau.de</u> www.career.fau.de

- → Help with your job search (also student job)
- → Support with applications
- → Check of application documents
- → Simulation of job interviews
- → Useful workshops and seminars





Office for Gender and Diversity

Bismarckstraße 6 91054 Erlangen

gender-und-diversity@fau.de

- → Support for women (in cases of violence, harassment)
- → Advice for students with children
- Help for students with a migratory background
- → Support for students experiencing discrimination of any kind (due to gender, ethnicity, religion, sexual orientation etc.)





Help with personal crisis
 Psychological support Studentenwerk:

Psychologisch-Psychotherapeutische Beratungsstelle Hofmannstraße 27, 2nd floor 91052 Erlangen



Open consultation (anonymous, without appointment):

Tue, 1:30 to 4:30 pm

Legal advisory service Studentenwerk:

Hofmannstraße 27, 2nd floor, Room 201 See website for consultation hours

Detailed info: www.werkswelt.de



One URL → all university services:

www.fau.eu/study/current-students

www.fau.de/studium/im-studium



One URL → all Medical Engineering services:

- www.medical-engineering.study.fau.eu
- www.medizintechnik.fau.de



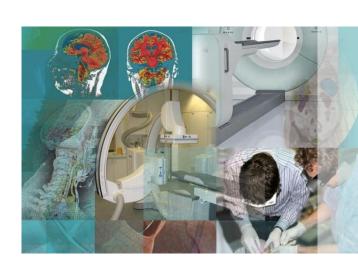
Too lazy to type URLs?

→ google "FAU" + keyword





Program Structure





Structure Master's Program Medical Engineering

Branches of Study

- Medical Electronics (German)
- Medical Image and Data Processing (German or English)
- Medical Production Technology, Device Engineering and Prosthetics (German)



Academic Lab & Research Lab

10 ECTS



(exams taken during studies: 80 ECTS)

Master's Thesis

Duration: 6 Months/30 ECTS



Master of Science (M.Sc.)

120 ECTS



What is "ECTS"?

- European Credit Transfer and Accumulation System
 Student workload required for the learning outcomes of a program
 - > 30 credits = recommended workload per semester
 - \gt 1 credit \cong 30 working hours
- You will find information on ECTS in the module catalogs, in the online information system UnivIS, on your Master's certificate/Transcript of Records



Semesters & Exams at the Faculty of Engineering

- Regular study time: 4 semesters/two years (can be extended to 5 without any problem)
- 1 semester consists of the lecture period (12-14 weeks)+ holidays/lecture-free period (~12 weeks)
- Two exam periods: first 2 weeks and last 3 weeks of the holidays
- Failing an exam: 2nd + 3rd chance in the following two semesters (mandatory registration) – exception: conditions/"Auflagen" (max. 2 chances/1 year)
- You can/must only take exams if you register for them.
- You can withdraw from registered exams until the 3rd working day before the exam date without any reason - or even later in case of illness (medical certificate).



Semesters & Exams at the Faculty of Engineering

<u>Winter semester: 01.10. – 31.03</u>

Lecture Period:

16.10.17 – 10.02.18

Exam Registration:

20.11. - 08.12.17, 12:00 (noon)

(Reminder via email!)

Re-Registration for SS 18:

01.02. - 08.02.18

(Reminder via email!)

Semester break (no lectures):

11.02. - 08.04.18

Exams:

12.02.-24.02. and 15.03.-07.04.18

www.fau.eu/study/current-students/semester-dates/

<u>www.fau.eu/study/current-students/examination-matters/examinations-office-faculty-of-engineering/</u>



Conditional subjects/"Auflagen"

- Must be passed within one year (deadline: 30.09.18).
 Otherwise they will prevent successful re-registration for the 3rd semester. No exceptions!
- After successful completion of conditional subjects: actively inform Mrs. Jahreis (Examinations Office)
- Examination results of the 2nd semester might be published late (after the deadline).
 If this is your case contact Mrs. Jahreis (Examinations Office) in due time and ask for a fast correction!



Conditional subjects/"Auflagen"

Lectures are only offered once a year (summer or winter):

- Grundlagen der Elektrotechnik II: SS (exam also in WS-)
 contact lecturer for materials and study on your own)
- Algorithmen und Datenstrukturen MT: WS (exercise class and exam also in SS)
- Mathematik A3: WS
- Engineering Mathematics: SS (exam also in WS ->
 contact lecturer for materials and study on your own)
- Advanced Programming Techniques: lecture, project and exam in WS → start studying C++ intensively now!

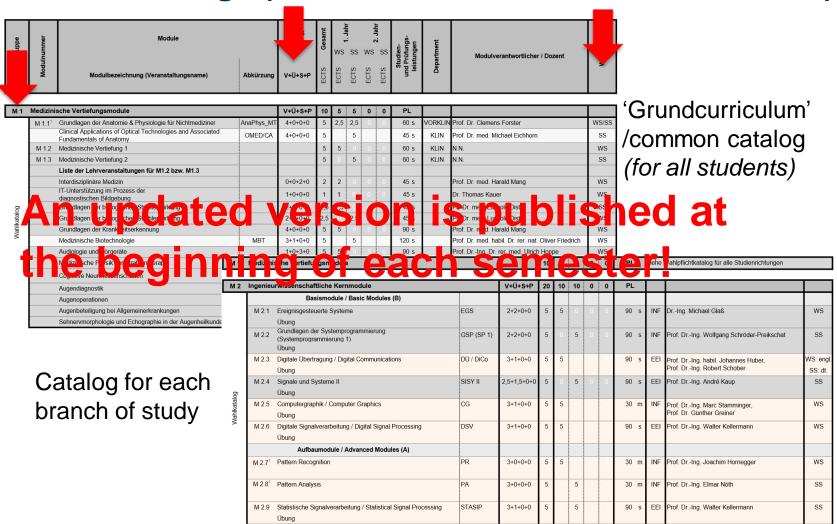


Master Course Scheme (from examinations regulation/FPO)

No.	Module groups	ECTS cred- its	Recommended semester distribution 8)			r	Type and scope of the course and examination achievement ⁴⁾
			1.	2.	3.	4.	
M 1	Medical specialisation modules according to the catalogue of elective modules for all branches of study 1) 2) 3)	10	5	5			EA: written examination (Klausur) 60/90 min. /oral examination 30 min.
M 2	Engineering core modules according to catalogue of elective modules for specific branch of study 2) 3)	20	10	10			EA: written examination (Klausur) 60/90 min. /oral examination 30 min.
M 3	Medical Engineering core modules according to catalogue of elective modules for specific branch of study 3) 5)	20	10	10			EA: written examination (Klausur) 60/90 min. /oral examination 30 min.
M 4	Medical Engineering core skills according to basic curriculum in catalogue of elective modules for specific branch of study 3)	10	5		5		EA (reports + presentations acc. to dept. specifications)
M 5	Medical Engineering specialisation mod- ules according to catalogue of elective mod- ules for specific branch of study ^{3) 6)}	10		5	5		EA : written examination (Klausur) 60/90 min. /oral examination 30 min.
M 6	Medical Engineering practical skills according to the catalogue of elective modules for all branches of study ³⁾	10			10		uCA (reports acc. to module descriptions and dept. speci- fications)
M 7	Flexible budget 7)	10			10		EA: according to applicable exami- nation regulations
M 8	Master's thesis	30				30	EA (report + presentation)
	Total ECTS credits 9)	120	30	30	30	30	



Module Catalogs (www.medizintechnik.studium.fau.de)





Structure – Master Medical Engineering

Modules specific to your branch of study:

• M 2: Engineering core modules: 20 ECTS

M 3: Medical Engineering core modules:

20 ECTS

M 5: Medical Engineering specialisation modules: 10 ECTS

Modules identical for all students: 70 ECTS

- M 1: Medical specialisation modules
- M 4: Medical engineering core skills (law, economics, ethics)
- M 6: Medical engineering practical skills (Academic Laboratory, Research Laboratory)
- M 7: Flexible budget (any graded course offered at FAU or VHB/Virtual University Bavaria)
- M 8: Master's thesis



Structure – Master Medical Engineering

- Total of 120 ECTS <u>should</u> be evenly spread over four semesters, no strict rule but <u>highly recommended</u>:
 - > +/- 30 ECTS per semester
- Very few compulsory modules (conditional subjects, some mandatory subjects, see footnotes in catalog!)
- Mostly free choice within the list for each module group
- Not all lectures are offered in winter and summer (see catalog).
- Recommendation for going abroad: 3rd or 4th semester



Types of Courses

- V/L = Vorlesung/lecture no registration, attendance not mandatory
- Ü/E = Übung/Tutorium; exercise class/tutorial further info in the 1st lecture, attendance usually not mandatory
- P = Praktikum/Practical course (lab course) attendance mandatory, early registration (see UnivIS) – not relevant for 1st semester
- S = Seminar attendance mandatory, early registration (see UnivIS) - not relevant for 1st semester



Types of exams/course achievement

- Prüfungsleistung (PL)/Graded course achievement (gCA)
 - schriftlich [written]
 - mündlich [oral]
 - Seminar (presentation and paper)
- Studienleistung (SL)/Ungraded course Achievement (uCA)
 - e.g. exercise classes or practical courses
 - Hochschulpraktikum/Academic Laboratory
 - Forschungspraktikum/Research Laboratory



Where can I find all the catalogs?

Website of the Medical Engineering program

http://www.medizintechnik.studium.fau.de/

→ "Studierende" → "Master **FPO-Version 2013** – Überblick"

http://www.medical-engineering.study.fau.eu/

→ "Current students" → General Study Information Master's Program

Catalogs are updated every semester! Read the footnotes!



What else is there to find on the study program website?

http://www.medizintechnik.studium.fau.de/ http://www.medical-engineering.study.fau.eu/

Study Guide

- Module handbook with content descriptions of each class (generated via UnivIS)
- Further Information: on modules, Master's Thesis, studying abroad, accreditation of coursework etc.
- Links to examination regulations (FPO, APO)
- important forms
- FAQ-section



M 8: Master's Thesis

- independent execution of scientific tasks in Medical Engineering
 - prepare yourself early on: e.g. lecture "Nailing your thesis" (SS+WS)
- Prerequisites: 75 ECTS and completing all conditional subjects
- to be completed within 6 months
- Look for your topic in due time (end of your penultimate semester at the latest!)
 - meaning also: select your modules with prudence
- Look for thesis topics on the lab's website/ask for personalized/nonadvertised topics at the labs
- Specific details, formalities, thesis form → Medical Engineering website



Extracurricular Foreign Language Training

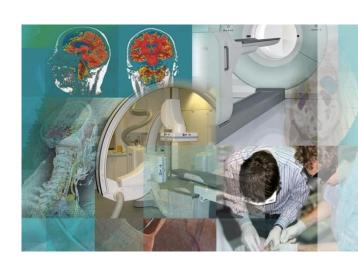
Sprachenzentrum (Language Center), Bismarckstraße 1 www.sz.fau.de

- Registration required for all courses
- Registration for German courses: online + in person open now! Highly recommended for internships & future job!
- Recommended languages to prepare for studying abroad:
 e.g. English, Spanish, Portuguese
- Courses also suitable for module group M7/Flexible budget





Online Tools





IdM portal: manage your personal data

- An IdM login is required for nearly all personalized online services at FAU.
- Activate your IdM Portal account with the activation password mailed to you → guided session later on
- Problems: Service-counter/"Service-Theke" RRZE (Computer Center): Martensstraße 1, 1st floor

Email address

- A FAU-mail address has been automatically generated for you.
- It is used as default recipient for mails from the university.

To relay: IdM Portal \rightarrow Services \rightarrow Click on the address \rightarrow Field "Relay to"



MeinCampus: manage your exams

- Login
 - https://www.campus.fau.de
 - "Single Sign-On"



- Prüfungen (Exams)
 - Exam registration/withdrawal (when active registration: Nov 20th-Dec 8th)
 - See your registered exams
 - Overview of grades/ECTS credits aquired
 - detailed instructions on the Medical Engineering website/guided session for exam registration in November





StudOn: E-learning platform

- Often used for courses that require registration (seminars, practical courses)
- Platform for sharing course materials
- You will be introduced to it later on today.





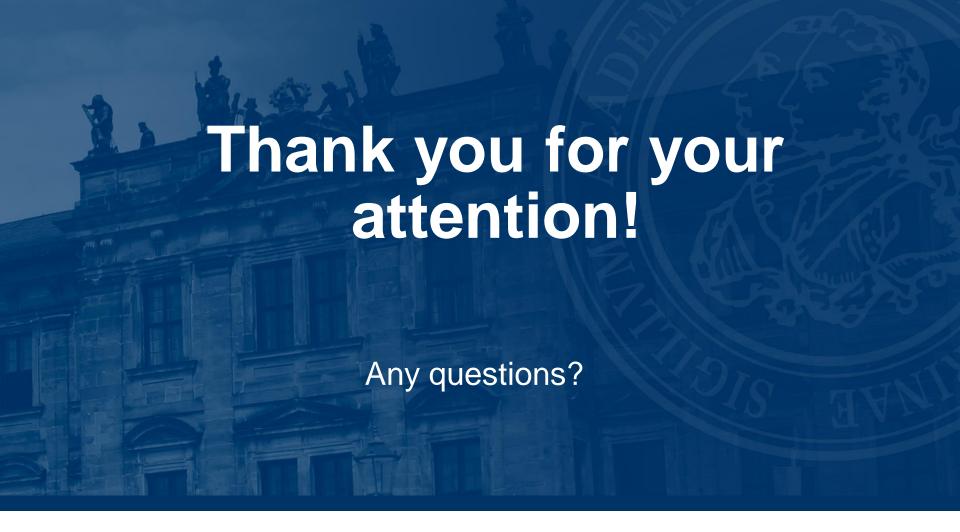
What's next?

- 1. Compile your class schedule
 - → UnivIS (guided session later on today)
- 2. Register for courses if needed (info in UnivIS), if not required simply go the 1st meeting
 - → Registration: usually via StudOn (see registration link in UnivIS)
- 3. Register for exams → MeinCampus (Nov 20th to Dec 8th)
- 4. Re-Register
 - → Bank info in MeinCampus + bank transfer (Feb 1st-8th)
- 5. Study & pass exams → study groups, time management, practice with old exams from FSI
- Actively report on your conditional subjects → Examinations
 Office (Mrs. Jahreis)



Tips & tricks

- Be proactive, inform yourself, talk to people, search online → Don't be afraid to google.
- 2. If there is a problem talk to your tutor/lecturer/study advisor *as soon as possible*.
- 3. Engage in campus life (student organisations, parties, study groups, buddy program).
- 4. Take language classes/speak German in daily life.
- 5. Read the study guide + examination regulations.
- 6. Read the **footnotes** in your module catalog.
- 7. Take part in the workshops, summer schools, hackathons etc. offered/promoted by ZiMT.



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