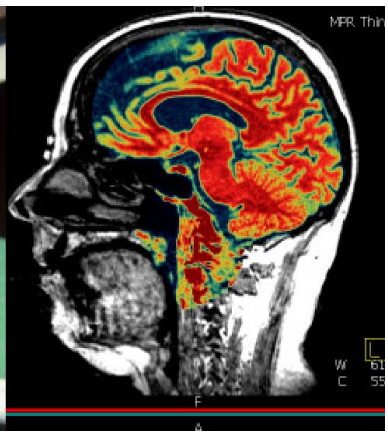
Friedrich-Alexander-Universität
Erlangen-Nürnberg

Master's Degree Program

Medical Engineering



Study Guide
WS 25/26

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

Preface

This study guide is meant as a handbook for the master's students of Medical Engineering at Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) to find their way through the sometimes confusing university life. **It is primarily directed towards students completing their studies according to the newest degree program and examination regulations for Medical Engineering ("FPO" version 2023, start of studies: 1st October 2023 or later)**. Master's students of the old degree program and examination regulations (FPO version 2013, 2018, 2019 or 2022) can also find useful information in this study guide but should consult the regulations that apply to them on the Medical Engineering homepage.

The information in this study guide has been thoroughly researched and worded with great care. However, only the degree program and examination regulations for Medical Engineering (FPO) and the general examination regulations for the bachelor's and master's degree programs at the Faculty of Engineering (ABMPO TechFak) form the legally binding basis for all study-related issues.

If you are unsure about some technical terms and abbreviations used, you can consult the glossary at the end of this study guide. In the last chapters you can also find explanations of online tools relevant for your studies and the information of all contacts mentioned.

The team of the Medical Engineering program wishes you fun and success with your studies!

Claudia Barnickel

Study Advisor and Coordinator Medical Engineering

Last updated: August 2025

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1.1 What is Medical Engineering?

The fast-paced progress in medicine pushes the medical engineering sector to constantly search for innovative developments and improved processes. This concerns the imaging techniques applied in the process of diagnosing and treating patients, e.g., computed tomography (CT) or magnetic resonance imaging (MRI) as well as the constant improvements of highly complex technical equipment, such as x-ray systems, radiation therapy units and operation systems. Other trendsetting areas are the research into new materials (e.g., artificial bone) used for implants (e.g., hip implants) and prosthetics, as well as the development of robots for surgery, rehabilitation and patient care.
This broad spectrum of requirements demands great efforts from researchers. Research teams increasingly consist of experts of various fields and require a vast cooperation of medicine, computer sciences, electrical engineering, mechanical engineering and material sciences to meet the manifold demands. Medical engineering companies and research centers therefore seek engineering specialists who have an interdisciplinary background, a request answered by the Medical Engineering study program.

1.2 Medical Engineering Career Prospects

Which jobs are suitable for Medical Engineering graduates?

Medical Engineering graduates work in research and development, product management, sales or service and maintenance of complex medical equipment and units, as well as in training and counseling on medical engineering issues. Prospective employers can be found in academic research, private businesses, healthcare institutions, consulting companies and public health agencies. The specific job opportunities can be divided into four work environments:

In **hospitals** and **laboratories,** medical engineers are responsible for the entire equipment and ensure that devices and units are fit to operate. Potential areas of work might include fields like intensive care, nuclear medicine and the central data acquisition and processing with its extensive monitoring system and storage procedures. Being experts for the technical devices, medical engineers work mostly independently from the hospital staff, but must remain in communication with doctors and (sometimes) patients.

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In **research institutions** or the **development laboratories** of industrial manufacturers, medical engineers test devices for new examination methods, analyzing their functions and comparing them to already existing methods. They can also be in charge of clinical examinations and risk assessments.

In larger **medical practices** (e.g., in dialysis centers) medical engineers supervise the equipment, ensure its operability, and instruct medical practitioners on equipment issues and the testing of new devices.

Medical engineers can also operate in **sales** and **consulting**. The highly specialized medical devices require the experts in these areas to be properly trained in the field of engineering, to possess basic knowledge in medicine and to fully understand the general and specific technology. Our graduates also have the option to work as consultants on medical products or as product managers.

What does the job market offer for medical engineers?

The job perspectives in medical technology are promising. Experts state that the demand for engineers and scientists is expected to increase due to the success of German medical engineering companies on the world market. In 2024, the roughly 1480 German medical engineering companies achieved a total turnover of 40,4 billion Euros and revenue growth of 3.4% is reported for the first quarter of 2025 compared to the same quarter of the previous year . In 2024, more than 212 000 people worked in the medical engineering field in Germany, and more than 50 000 of these jobs have been created since 2023. The medical engineering market is very agile and innovative. For instance, the German medical engineering manufacturers made one third of their turnover with products less than three years old. This industry needs engineers with innovative ideas who are competent in research and want to continue to drive the improvement and new development of medical technology products forward.

The industry is looking for well-educated personnel not only for research and development but also for questions of regulation and registration. The path of medical devices from their conception to the launch on the market is becoming increasingly more complex and demands improvement of the know-how and personnel resources within a company.

The income potential of graduates is attractive and comparable to the earnings in the pharmaceutical industry. The excellent opportunities for career building and the increasing internationalization of medium-sized medical engineering businesses facilitate a fortunate salary development.

Introduction

(Sources: bvmed.de; spectaris.de; https://www.boeckler.de/)

1.3 Medical Engineering at FAU

1.3.1 General Information

The Bachelor's degree program Medical Engineering was launched in the winter semester 2009/10 and the classes of the two-year master's degree program Medical Engineering began in the winter semester 2011/2012. The principles of our degree program consist of providing a thorough education in engineering, incorporating the benefits of our specific location in the Medical Valley of the Nuremberg Metropolitan Region and promoting international and interdisciplinary studies. The successful completion of these aims has been confirmed by the accreditation (quality control) by the agency AQAS.

The Study Commission for Medical Engineering of FAU's Faculty of Engineering is in charge of the concept and organization of the study programs. We would like to emphasize not only our close cooperation with different departments of the University Hospital Erlangen, which facilitates the clinical internships for our students, but also the variety of our contacts with external partners, e.g., companies of all scales, medtech hubs, associations, research facilities and other universities. The integration of our study program into national and international networks ensures that it meets the current research demand and the expectations of future employers.

About 700 students are currently enrolled in our master's degree program. Within the last years, the student numbers have remained on a high level, as figure 1 indicates. The balanced gender ratio of about 40 % female and 60% male students in the master's program is remarkable for a study program in the field of engineering.

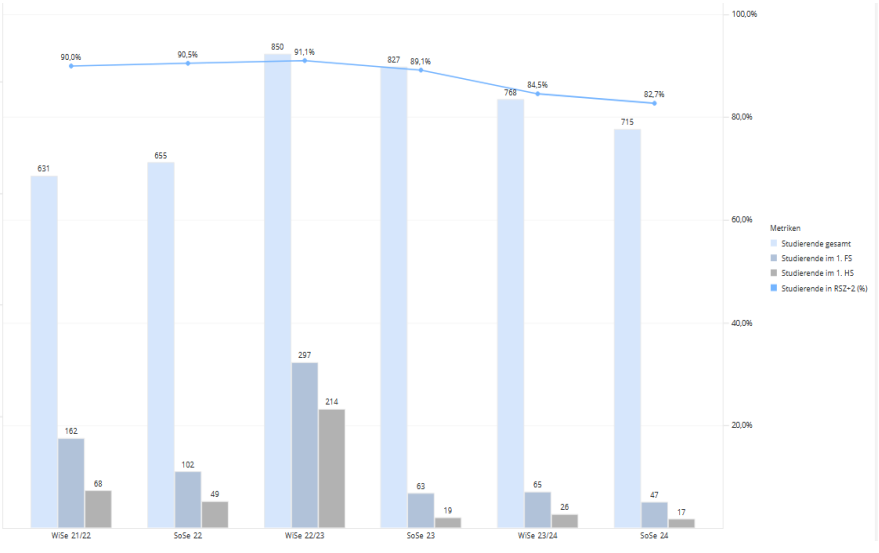


Figure 1: Development of student numbers until SS 24: light blue: total amount of students in our master's program, dark blue: students in their 1st semester of the master's program, grey: students in their 1st semester at a German university

1.3.2 Structure and Objectives of the Master's Degree Program

The research-oriented master's degree program is designed to complement the interdisciplinary education of the bachelor's degree and prepares the graduates for working as engineers on the highest scientific level. The studies build on the knowledge in mathematics, algorithmics and engineering that has been acquired during the bachelor's degree program. This allows for both, specialization and broad employability across disciplines.
The master´s degree program offers five specializations: "Medical Image and Data Processing" (can be studied entirely in English or as a combination of German and English), "Medical Electronics" (language of instruction: German), "Medical Device Engineering, Production Technology and Prosthetics" (language of instruction: German), "Health & Medical Data Analytics and Entrepreneurship"/HMDA (language of instruction: English) or "Medical Robotics" (language of instruction: English). The students gain deep technical knowledge in their chosen engineering field with a clear focus on problem-solving and application methods in their respective area of medical engineering. Through our close cooperation with the University Hospital and our Faculty of Medicine, students have the opportunity to learn about medical processes and anatomic-physiological connections and develop medical terminology skills. Additionally, they can prepare for the regulatory, ethical and economic particularities of the medical engineering sector by attending classes on medical device regulation, ethics, health economics and business creation. Another key element of the study program is the interdisciplinary master's thesis, which is supervised by members of both the Faculties of Engineering and Medicine or a comparable medical facility.

1.3.2.1 *Requirements of the Study Program*

Who is suitable for the study program Medical Engineering?

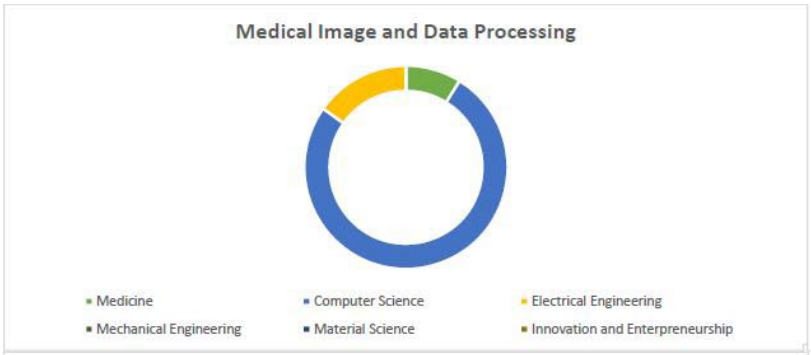
The Medical Engineering program at FAU is directed towards prospective students with a technical and scientific (especially mathematical) understanding and teaches technical problem-solving competences for hands-on medical applications. Therefore, you will not only need extensive knowledge in **mathematics** but also consolidated skills in **electrical engineering** and **computer science**. Accompanying the engineering studies, basic medical knowledge (anatomy, physiology, and biochemistry) is incorporated into the study plan from the first semester on, but represents less than 10 % of the study content. Due to the broad technical spectrum and the simultaneous specialization, great commitment is required to master this challenging degree program. The interdisciplinary nature of the studies requires open-mindedness across disciplines, excellent communication skills and an interest in diverse subjects. Endurance while handling complex tasks and self-organization skills are key. In exchange, you gain the chance to enter an exciting prospective job field.

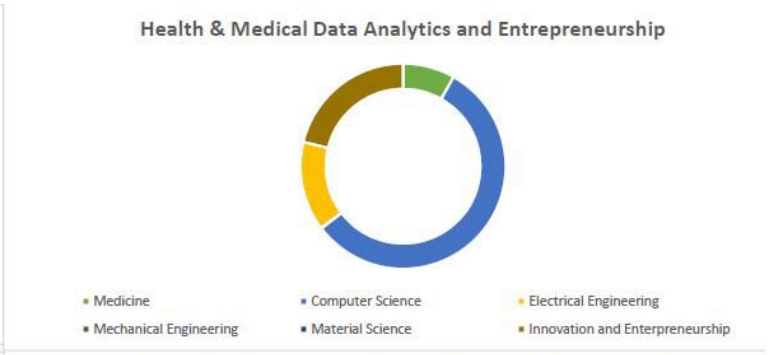
2 Master's Program Medical Engineering

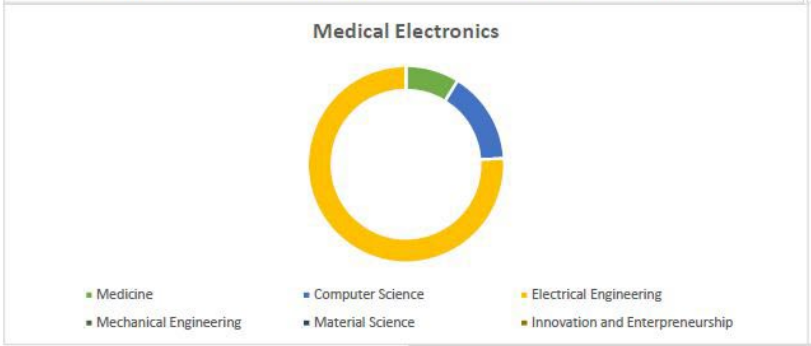
2.1 Overview

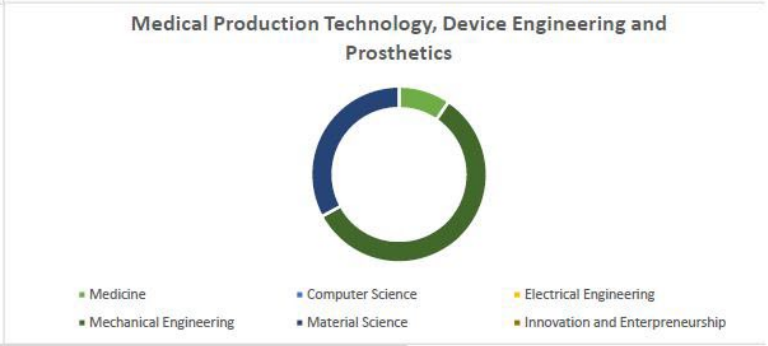
The standard duration of studies for the master's program Medical Engineering amounts to four semesters. The students must indicate in their application **one** of the five possible specializations (*figure 2*): "Medical Image and Data Processing" (can be studied entirely in English or as a combination of German and English), "Medical Electronics" (language of instruction: German), "Medical Device Engineering, Production Technology and Prosthetics" (language of instruction: German), "Health & Medical Data Analytics and Entrepreneurship"/HMDA (in English) or "Medical Robotics" (language of instruction: English). **The master's study plan is very flexible except for a few compulsory subjects; students may design their plan individually according to their specialization.** Practical knowledge is gained through an academic laboratory (laboratory training class) and a research laboratory carried out at one of the chairs involved in the program. In the "Flexible Budget Faculty of Engineering" module, students are free to take any module offered on master's level at the Faculty of Engineering or selected courses in the field of innovation and entrepreneurship. In the "Free Choice Uni'" module, students can take any graded course of their choice. The master's exams take place after each lecture period, right at the beginning and at the end of the semester break. The fourth semester is designated for the master's thesis. In order to successfully complete the master's degree program, 120 ECTS points must be acquired. Upon completion, the academic title Master of Science (M.Sc.) is awarded.

Master Medical Engineering









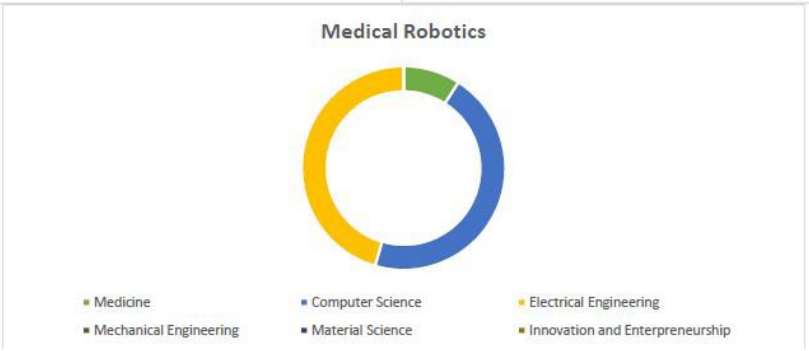


Figure 2: Subject distribution within the master's specializations

2.2 Before Beginning your Studies

2.2.1 Admission Requirements

To successfully apply for the master's degree program Medical Engineering, you must have a **suitable bachelor's degree** and a **minimum grade aveage of 2,5 (according to the German grading system**, in which 1.0 is the best grade and 4.0 is the worst passing grade).
The (potentially) suitable bachelor's degrees must be **exclusively from the field of engineering/technology**, e.g.:

- (Bio-)Medical Engineering degrees from other universities
- Electrical/Electronic/Communications Engineering
- Computer Science
- Mechatronics
- or similar.

A degree in a non-engineering field (e.g., Medicine or Biochemistry) does not meet the admission requirements for the master's degree program Medical Engineering.
We cannot give you a general statement on your chances for admission. We must analyze your application and determine whether your bachelor's degree is comparable to the Bachelor's degree in Medical Engineering from FAU or whether your qualification profile differs too much from our degree program. If you are applying from abroad, your grades and credits must be converted into the German system. In order to get a general idea of whether the program is suitable for you, we highly recommend that you take our **online self-assessment test**.

2.2.2 Application

The application for the master's degree program can only be submitted via the online portal Campo, available in German and English.
The application deadline for the winter semester is **May 31st** and for the summer semester it is **January 15th**. **Non-EU applicants should hand in their application as soon as possible in order to have enough time to apply for their visa after being accepted.** The following documents must be submitted with your application via Campo:

- Certificate of secondary education (e.g., high school diploma)
- Certificate of university degree (if already available), diploma supplement (if available)
- Transcript of records, including n-1 of the semesters of your study program (i.e., 7 semesters for a 4 year study program)
- Personal data sheet (= CV), in a format/style of your choice
- Letter of motivation (one DIN A4 page)
- If the language of instruction is not your native language, a certificate of language skills is required:
    - **Either** for German: DSH 2 or equivalent (https://www.fau.eu/education/international/from-abroad/application-and-enrollment/german-language-skills-and-certificates/)
    - **Or** English: internet based TOEFL: at least 80, paper based TOEFL: at least 547, computer based TOEFL: at least 210, IELTS: at least 5.5, Cambridge Certificate in English (FCE) or Business English Certificate (BEC) Vantage, UNIcert III

Foreign certificates must be submitted as certified copies. If the certificates are not available in German, English or French, a certified translation is required (see https://www.fau.eu/education/international/from-abroad/application-and-enrolment/notes-on-certification-of-documents/). Certificates from Germany can be submitted as non-certified copies.

Applicants studying in a bachelor's program in the European Union can apply for the master's degree program once they have acquired at least 140 ECTS points. After enrolling in the master's degree program, they have one year to submit their bachelor's certificate or else they cannot continue your studies.
Applicants studying in non -EU countries who have not finished their degree at the time of their application, can only enroll in the master's program if they submit their final (official) degree certificate at enrollment.

2.2.3 Qualification Assessment Process (QFV)

During the qualification assessment process (QFV), it is determined if applicants possess the required technical qualifications for the master's degree program Medical Engineering at FAU. Unlike studies with a *numerus clausus* system (NC), there is no limitation to the numbers of students accepted. **All applicants who are suitable according to the QFV criteria are admitted.** The QFV process is divided into several steps:

- First, all applications received by the master's office of FAU are examined with regard to their completeness and formal requirements. Foreign grades are converted to the German grading system. The conversion to the German grading system is dependent on your country and sometimes even university.

  In order to get a rough non-binding estimation, you may use the equation:

  German grade = 1 + 3(N_max-N_d)/(N_max-N_min)

  N_max and N_min are the best possible and the minimum passing grade in your grading system, respectively, and N_d is your personal bachelor's grade. Please note that in the German system, 1.0 is the best possible grade, higher numbers mean worse grades.

- In the next step, your application documents are evaluated: Is the bachelor's degree discipline-related or not equivalent? Applicants with a non-equivalent degree are rejected. Has the applicant achieved a final grade (grade average) of 2.5 or better (according to the German system)? This assessment is made based on the conversion of your grade to the German grading system; the conversion will be made by our officers at FAU. Applicants with a discipline-related degree but a final grade worse than 2,5 (according to the German system) will be rejected.

- After that, applicants with a discipline-related degree and a final grade equal to or better than the German grade 2.5 are invited to an online admission test via our platform StudOn Exam, in which the following aspects are tested:

  - competent knowledge of the basics of the subject (mathematics, algorithms), 25%
  - consolidated knowledge in engineering corresponding to the chosen specialization in the master's degree program, 75%

  If you are invited to the online admission test, you will be informed about it via email at least 7 days in advance.

  Please note that we do not provide you with mock exams, examples for potential questions or similar. If you possess the solid engineering background we require from our students, you will be able to pass it without additional studying. If you don't pass, this means that our program is not suitable for you.

  For applicants of Medical Image and Data Processing, Health & Medical Data Analytics and Entrepreneurship, and Medical Robotics, the test is offered in English, for all other specializations, in German. The examination shall be rated as "bestanden" (passed) or "nicht bestanden" (failed).

2.3 During your Studies

2.3.1 “Compulsory Electives”

As indicated in the footnotes in the master’s module catalogs, some compulsory electives must be completed if certain qualifications have not been acquired in the bachelor’s studies. This applies to the lecture “**Fundamentals in Anatomy and Physiology for Engineers**” and for the following lectures:

- Specialization “Medical Image and Data Processing” and “Health & Medical Data Analytics and Entrepreneurship”: **Pattern Recognition, Pattern Analysis**
- Specialization “Medical Robotics”: **Robotics 1**

Your freedom to select courses from your module catalog is limited by these compulsory modules if you are lacking the respective qualifications. You have time until the start of your master’s thesis to pass these courses and they are also included in the total workload of the 120 ECTS credits of your master’s program. If you believe that you already possess the respective knowledge of the compulsory modules and can prove this with a module description and transcript of records from your bachelor’s program, you are welcome to contact our officer for accreditation and file an application for accreditation - please visit our Medical Engineering website for further details. Your module description will be checked by the lecturer responsible for the FAU module, who will decide whether accreditation is possible. If they give their permission, you are free to skip the respective “compulsory module” and choose other modules of the same module group instead. Please note, however, that your credits and grade from your bachelor’s module cannot be accounted for your master’s studies, as you are legally required to build up new competencies in your master’s studies in comparison to your bachelor’s studies.

2.3.2 Specializations

In our master’s degree program, you choose between five specializations: “Medical Image and Data Processing” (focus on Computer Science), “Medical Electronics” (focus on Electrical Engineering), “Medical Device Engineering, Production Technology and Prosthetics” (focus on Mechanical Engineering/Material Sciences), “Health & Medical Data Analytics and Entrepreneurship/HMDA” (focus on Computer Science and Innovation/Entrepreneurship) or “Medical Robotics” (focus on Artificial Intelligence and Electrical Engineering). “Medical Image and Data Processing”, “Health & Medical Data Analytics and Entrepreneuship” and “Medical Robotics” are international specializations offered entirely in English. However, students of these specializations can choose to attend certain lectures in German if they are fluent in both languages. You must indicate your desired specialization in your master’s application, but you are alltipowed to change it during your first semester.

2.3.3 Structure of the master's Program

The master's degree program Medical Engineering is composed of nine module groups. Module group M1 (Medical Specialization Modules), M4 (Advanced Seminar Medical Engineering), M6 (Medical Engineering Practical Modules), M7 (Flexible Budget for Faculty of Engineering), M8 (Free Choice Uni) and M9 (Master's Thesis) apply equally to all master's students. Only the specialization HMDA has specific restrictions regarding module group M7, as HMDA students *must* take courses related to business and innovation in this module group, whereas this is *optional* for students of the other specializations. Modules M2, M3 and M5 vary according to the chosen specialization. All module catalogs for the master's degree program are updated every semester and published on the Medical Engineering website (https://www.medical-engineering.study.fau.eu/current-students/general-study-information-masters-program/).

Modulgruppe		
Nr.	**Name**	**ECTS**
M1	Medizinische Vertiefungs-module/Medical specialisation modules gemäß § 44a Abs. 1	10
M2	Ingenieurwissenschaftliche Kern-module/Engineering core modules gemäß § 44a Abs. 2	20
M3	Medizintechnische Kernmod-ule/Medical Engineering core modules gemäß § 44a Abs. 3	20
M4	Hauptseminar Medizintech-nik/Advanced Seminar Medical Engineering gemäß § 44a Abs. 4	5
M5	Medizintechnische Vertiefungs-module/Medical Engineering spe-cialisation modules gemäß § 44a Abs. 5	10
M6	Medizintechnische Praxis-module/ Medical Engineering practical modules gemäß § 44a Abs. 6	10
M7	Flexibles Budget Technische Fakultät/Flexible budget Faculty of Engineering und FB WiSo gemäß § 43 Abs. 4	10
M8	Freie Wahl Uni/Free choice Uni	5
M9	Masterarbeit/Master's thesis	30
Summe ECTS-Punkte		**120**

Figure 3:Master's study plan template

Our master's curriculum, contains very few mandatory courses. You will mainly choose from a list of modules offered for a certain module group according to your own interests. **This freedom in selecting courses also means that there is no pre-determined course of study, and you must compose your schedule on your own every semester.**
Even if the master's study plan template and the module catalogs give you a recommendation as to when you can take your classes, you are not bound to comply. It is possible, however, that the responsible lecturer states certain previous qualifications required for successfully completing the course in the module description in Campo. Please consider this information in your selection.
In general, you must be diligent about looking up which course is offered when (winter or summer semester or both), which requirements there are for participating, and if/when you have to register for a course (see Campo or, if in doubt, contact the lecturer in question). It is also important to keep the workload (ECTS credits) required for the module group in mind while designing your schedule.

2.3.4 Description of Individual Module Groups

2.3.4.1 *Modules of the Core Curriculum (for all specializations)*

Medical Specialization Modules (M1)

This module group is mainly offered by lecturers of the Faculty of Medicine and contains lectures about disease diagnosis and the application of technical devices in the clinical field. Students who have not gained medicinal knowledge in their bachelor's studies are obliged to take the lecture "Fundamentals in Anatomy and Physiology for Engineers".

Advanced Seminar Medical Engineering (M4)

For the seminar module, students can choose between different options from the seminar catalog. In contrast to lectures, seminars require previous registration. You can either attend one seminar with a workload of 5 ECTS or two different seminars worth 2.5 ECTS each. In the seminar, you will give a presentation and write a report on a special topic, which can either be assigned to you by your lecturer or chosen by yourself from a list of potential topics.

Medical Engineering Practical Skills (M6)

This module is composed of two non-graded practical achievements, which are both carried out at the university. Please do not confuse these practical modules with industry internships. There is no industry internship included in our master's curriculum.

Academic Laboratory (M6.1)

Academic Laboratory refers to a laboratory training in which students learn how to prepare, execute,and document experiments at the university. Academic Laboratory tasks at the Department of Computer Science, for example, include the resolution of a given problem with a hardware- or software-based method and the analysis of the solution incorporating a database. The preparation for the laboratory training is conducted according to the course instructions and generally includes literature or exercises connected to the experiment. Your work must be documented in a laboratory journal.This documentation must contain the applied materials and methods, the results, and an analysis and discussion of the lab work.
Many courses offered by the Faculty of Engineering that are marked as "practical" (practical training) in Campo fulfill the requirements for the Academic Laboratory. It is also possible to divide the Academic Laboratory into two laboratory trainings with a workload of 2.5 ECTS credits each. You can search specifically for practical courses in Campo by going to the section "studies offered" – "search for courses". Please select "practical training" as your "course type" and "Technische Fakultät" as your "organizational unit". You can also find a list of suitable and not suitable courses for the Academic Laboratory module on our study program website. If you are not sure if the training you have selected is suitable for the module, please contact your study advisor. Please note that in contrast to lectures, lab courses require previous registration.

Research Laboratory (M6.2)

The Research Laboratory allows students to learn how to apply academic methods in the field of research and serves as a good preparation for the master's thesis to come. The focus of the research work can be of experimental, theoretical, of constructive nature or a combination of these areas. The Research Laboratory is usually conducted at a department of the Faculty of Engineering. Research Laboratories at the Faculties of Medicine or Science are also possible after being greenlit by your study advisor. Please look up the websites of the respective chairs to find out which research projects they offer. You can also contact your professors or their scientific staff and inquire about non-advertised research projects. The Research Laboratory can also be conducted at a company if your academic supervisor at FAU agrees. **To do so, it is crucial that students inquire about the FAU supervision at suitable chairs/labs *before* the make any**

commitments towards the company. Do not sign any contracts with a company on your own, since these projects cannot be used towards your studies!

It is obligatory that your FAU supervisor issues a certificate regarding the completion of your research laboratory to hand in at the Examinations Office. The form can be found on our homepage in the Research Laboratory section.
The aim of the Research Laboratory is to familiarize the students with tasks in engineering-related research and to offer practical experience in scientific work on master's level. This includes learning how to research literature and assess its relevance, develop and apply criteria for the evaluation of the research work, and further develop the methods applied.
At the end, a written report of the conducted work must be submitted. You can either participate in a scientific publication of your supervising chair as a co-author or can present an individual report (4 to 6 pages) to your supervisor which follows the style of scientific publications (abstract, introduction, methods, results, discussion, and references).

Flexible Budget Faculty of Engineering (M7)

For this module, students are generally allowed to take any **graded** course offered on **master's** level at the **Faculty of Engineering**. Please inform yourself in the FAQ section of the Medical Engineering study program website which courses fulfill these criteria. If you are planning to go abroad for an exchange semester, this module is a good opportunity to incorporate academic achievements that would not be accredited otherwise (see 3.17 Accreditation of Academic Achievements). **Students of the specialization HMDA must choose their courses for M7 from the respective section in their course catalog, as it is mandatory for them to complete 10 ECTS in the subject field of innovation and entrepreneurship.**

Free Choice Uni (M8)

For this module with a total workload of 5 ECTS, you are allowed to take any course offered at our university (e.g., language courses, psychology, economics, technical or medical engineering courses you have not used elsewhere) as well as online courses (with an on-site exam or an online exam with identity control) offered by the Virtual University of Bavaria (see 5.6 Virtual University of Bavaria (VHB)). The only requirement is that the course must be **graded**. If you are planning to go abroad for a semester, this module is a good opportunity to incorporate academic achievements that would not be accredited otherwise (see 3.17 Accreditation of Academic Achievements).

Master's Thesis (M9)

Once you have achieved 75 ECTS credits and completed your compulsory electives (see 2.3.1 Compulsory Electives), you can begin your master's thesis. The thesis paper consists of a workload of 27.5 ECTS. Additionally, you will give a presentation about your thesis results (2.5 ECTS), which will often be carried out in a seminar/colloquium setting at the chair that is supervising your thesis. You should begin to search for a master's thesis topic at the beginning of your penultimate semester, so you can choose your lectures specifically to acquire the necessary knowledge for your thesis project.

The master's thesis topic is generally assigned to you by a professor of the Faculty of Engineering who is involved in the engineering core curriculum of the bachelor's or specializations of the master's degree program (see https://www.medical-engineering.study.fau.eu/infocenter/persons-of-interest-and-departments/). The professor signs the registration form for your thesis paper and is responsible for its grading. You can select a topic by searching the websites of the different chairs or checking the bulletin boards in the Faculty of Engineering. It is also possible to approach professors and PhD students at a chair on your own and ask if you can work on a medical engineering subject there. Only professors and junior professors can officially supervise your master's thesis.

The technical and practical supervision is usually conducted by an academic employee or a doctoral candidate of the same chair. This task can also be performed by a supervisor from a company if the department's responsible supervisor agrees that your paper is conducted within a business cooperation. If you are interested in this option, you must ask your chair of choice if there are established business contacts and partners appropriate for your thesis project. **You cannot establish a business contact for your master's thesis on your own since external projects without FAU supervision are not counted towards your degree.**

Additionally, you must find a medical supervisor who will not grade your paper but proofread your work regarding its medical content. This medical supervisor may be an employee of the University Hospital or a similar institution, e.g., another clinic, an x-ray center, or the Faculty of Medicine (the supervising departments often have established contacts). The medical supervision can be also be carried out by any medical practitioner in Germany. Before you start the thesis process, you should ask your medical supervisor to which degree they want to be involved in supervising your thesis paper. For instance, do they want regular updates from you during the process or do they prefer to proofread your final draft?

You must register your thesis at the Examinations Office through your supervising chair. The form required must be signed by the supervising professor, the medical and, if applicable, the technical supervisor and can be found on the Medical Engineering homepage.

From the date of registration, you have **six months** to complete your thesis paper. An extension of up to three months can be given if severe issues occur. **If you become ill during the research or**

writing process and submit a doctor's certificate to the Examinations Office, your working period is on hold for the amount of time you are on medical leave.

The master's thesis must include a short summary of the results (abstract) and a declaration by the student confirming that the thesis is an original work and that no other sources or materials than the ones listed were used. The layout must meet the regulations given by the supervising chair which usually provides your with specific formal guidelines. Within the first two months after your registration, you have the possibility to resign from your master's thesis and switch your topic once. For this process, you must hand in a substantiated request at the Examinations Office. Once the thesis paper is completed, one digital copy (PDF document on a storage device) and a printed and bound version of your thesis must be submitted to the academic supervisor. If the master's thesis receives the grade "unsatisfactory", students have the option to either revise their paper or choose a new topic once in the subsequent semester. You have to pass your master's thesis in the second attempt, or else you are deregistered from the study program without a degree.

2.3.4.2 *Modules Specific to your Specialization*

The module groups M2 (Engineering Core Modules), M3 (Medical Engineering Core Modules) and M5 (Medical Engineering Specialization Modules) and M7 (only for the specialization HMDA) include the courses that are specific for the specialization you have chosen. They are listed in the corresponding catalog of your specialization, which can be found on the Medical Engineering homepage and is updated each semester. **In the catalog, it is crucial to pay attention to superscripts and footnotes**. You can choose how you want to incorporate the courses specific to your specialization. For M3 you can incorporate modules worth up to 5 ECTS credits from M2 and M5 of your own specialization or from M2, M3, or M5 of the other **(partly German-taught)** specializations. For M5 you can incorporate modules worth up to 5 ECTS points from modules M2 and M3 of your specialization or from M2, M3, and M5 from the other **(partly German-taught)** specializations.

2.4 After Completing your Studies

2.4.1 Certificates

After successfully completing your last academic achievement in the master's degree program, you will receive your master's certificate (in German), a transcript of records (in German and English), a diploma supplement and a grade distribution table (both in German and English) within four to six weeks by mail. Please indicate a working postal address in the IdM portal!

Master's certificate: It lists all modules that are part of your master's examination with their respective grade (if available) and ECTS credit points. The certificate will also show your overall grade and the topic of your master's thesis paper. However, it will not show failed attempts or the number of semesters you have studied.

Transcript of records (in German and English): It shows every module you have taken, its respective grade (if available) and ECTS credit points. Modules which were not considered in your master's examination will be included here. They will be listed under the category "Additional modules". Again, the transcript does not contain information about failed attempts or the number of semesters that you needed to graduate.

Diploma supplement (in German and English): It shows general information regarding the content of the study program, the qualification profile of the graduate and the German university system.

Grade distribution table (in German and English): To simplify the comparison of final grades achieved at different universities in different countries, Friedrich-Alexander-Universität Erlangen-Nürnberg publishes grade distribution data in addition to students' final grades. For each grade in the local grading system, the number of degrees awarded with this grade in your student reference group is given.

If you intend to apply for jobs right after handing in your master's thesis paper, you can ask the supervisor of your thesis paper for a confirmation that you will receive at least a 4.0 ("passed") on your paper. After submitting this confirmation to Ms. Jahreis of the Examinations Office, you will receive a preliminary certification of your graduation.

Important for Non-EU students: If you want to stay in Germany after graduation you need to apply for a job-seeking visa (duration: 18 months) in due time before you graduate!

2.4.2 Doctorate

If the research you have done for your master's thesis inspired you to immerse yourself further into the research sphere, you should think about starting a doctoral thesis. You first need to find a supervisor for your thesis. You can inform yourself online at the chair of your choice or contact your professor directly. Information on all formalities can be found here: https://www.fau.eu/graduate-centre/. The FAU Graduate School offers registered doctoral candidates courses in scientific work, literature administration or statistics, among other things.

2.5 Useful Tips

2.5.1 Tips for Successful master's studies

Tip n°1: Attend the master's Welcome Event ("Master Welcome Day Medical Engineering").

The study advisory for Medical Engineering organizes an introductory event for first semester students at the beginning of the lecture period every winter and summer semester. You will be introduced to the campus of the Faculty of Engineering (your primary study location) and will receive crucial information regarding your studies, support offers at the university and social life on campus. The welcome meeting is also a chance to meet and bond with your fellow students, which will be essential in the upcoming semesters. The dates for the welcome event are published on the Medical Engineering homepage and you will also receive an invitation via email. The presentation slides from previous welcome events are uploaded on the same website so that you can consult them anytime.

Tip n°2: Visit and read the Medical Engineering homepage regularly.

The homepage of the study program http://www.medical-engineering.study.fau.eu/ includes the categories "prospective students" and "current students". Many questions can be solved by reading through these pages. Please read through the FAQ section carefully ! It is important for you to know that in the German culture, written information is considered the most superior and reliable source of information. This may be hard for you to incorporate at the beginning if you come from a cultural background where the most trustworthy information is obtained by speaking to (several) people in person. However, it is crucial to embrace this difference, as you can never argue a case in Germany by reporting that "person X said that…". If you want to prove a point you need to know where the information can be found in written form (i.e. on an official university website).

Tip n°3: Get familiar with the campus and the city center of Erlangen.

The courses for Medical Engineering mainly take place on the campus of the Faculty of Engineering (in the southern part of Erlangen) and partly in the city center. Knowing your way around and having a bike is an enormous advantage while getting from one course to another (please familiarize yourself with German traffic rules!). It is also recommended to stroll around the campus and the lecture halls as they are not sequentially numbered (see 9 Map). Sooner or later, you will need to know where to find a certain lecture hall, the office of your study advisor or the CIP-Pool supervisors (see 5.2 CIP Pool-Account). The student association FSI MedTech (see 7

Glossary - Important Terms for Studying Medical Engineering) regularly offers guided tours through the campus at the beginning of the lecture period.

Tip n°4: Get familiar with the FAU online platforms (FAUdir, Campo, StudOn).

Whether you are looking for the email address of a professor or need to know how to register for a course, FAUdir, Campo and StudOn (see 5.3 FAUdir and the following chapters) will become your most important online tools while studying. Take some time at the beginning of your studies and get to know their functions.

Tip n°5: Don't miss the first and last course meetings of the semester!

In most lectures, the professor discusses the most important issues during the first session, e.g., where to find the study material, how you can register for the tutorials, etc. Please check if there is a set date for your laboratory training or seminar on Campo for registration or a preliminary discussion.If so, it is mandatory to respect these dates! In the last course meeting, you lecturer will usually sum up the course content and give you a last chance to ask questions before the exam takes place. They might even drop some hints regarding the exam content.

Tip n°6: Be proactive and collect information.

It is a unique trait of the German university system that students are extremely free and must organize their studieson their own, this extends from the class schedule to the study material, even the topic of your master's thesis paper. If you are unsure about an issue, you should always search for the answer on your own first.
For example, if the lecture content seems unclear, it is helpful to research the topic online, look for literature in the library or form a study group with other students. For general organizational questions, you can take a look at the FAU website. Navigating through the website is sometimes a bit complicated, but you will have high chances for good results if you enter your key word and "FAU" in the search engine. If you have study program-specific questions, we recommend consulting the Medical Engineering homepage. If none of these methods show results, don't hesitate to ask someone for help, like your study advisor or the student association. The best approach to avoid misunderstandings is to clear up any doubts as soon as possible, or else you might discover at the end of the semester that you are taking the wrong course. **This sort of organization is the student's responsibility.** You can also contact your professors regarding important academic issues (but refrain from asking them questions the answers to which can be found by a click online). On occasion, you will need a little patience while waiting for your professors' answer. If professors do not reply to your emails, you can visit them during their consultation hours.

You can find their schedule either at the chair's homepage or by asking the chair's secretary.

Tip n°7: Learn German.

Although you can study our Medical Engineering program completely in English, your German skills will oftentimes be the decisive factor when it comes to getting a job or an internship at a company. Moreover, it will facilitate your daily life tremendously if you can speak to your landlord, a shop vendor or medical personnel in German. Your German classmates are also easier to approach if you know some basics about their language and culture. Since the German courses offered during the lecture period are free of cost, there is really no excuse not to learn German! As the German courses take place twice per week in presence format and attendance is mandatory, they will also help you to structure your week and meet other internationals students on a regular basis. Feel free to ask your German teacher anything that you do not understand about the German habits or ways of communicating. They are experts in the field and will be happy to help you.

Tip n°8: Read your module catalogs and Campo thoroughly.

Carefully study the module catalogs and pay attention as to which subject is offered in either winter or summer semester or in both when designing your personal class schedule. **Read the footnotes!** Although the module catalogs are compiled with special care and are updated regularly, it is possible that some information is incorrect. This can occur when a university unit (e.g., the Faculty of Medicine) stops offering a certain lecture without informing the Study Commission for Medical Engineering (see 7 Glossary - Important Terms for Studying Medical Engineering). The lecture in question may still be listed in the module catalog although it is not possible to take it anymore. To avoid any misinformation of this kind, we recommend consulting both the module catalog and the Campo entries for the current semester and to consult your study advisor if in doubt.

Tip n°9: Get to know your professors and their labs (chairs) early.

Inform yourself early about the labs (also called chairs) at which you can do your Research Laboratory or master's thesis and get to know potential supervisors. All the labs have a website, which you can check from time to time for research topics, events and offered courses. Many of them also have a social media presence, making it even easier to follow their activities.

Tip n° 10: Avoid misinformation!

Most of the students who have to leave our Medical Engineering program without a degree have to do so because they didn't know the study rules (e.g., how many exam attempts they had, how to withdraw from an exam, how to prepare for the German style of exams, etc.) or missed crucial deadlines (i.e., the exam registration period). It is important to know that the German culture is very strict when it comes to obeying rules. This means that if you missed a deadline or didn't submit the documents you were supposed to submit, you will not be given a second chance.

Do not trust any information about your studies that reaches you through your friends or by hearsay, but always check the respective documents/FAU websites yourself.

3 General Study Information

3.1 Semester Schedule

The winter semester always begins on October 1st and ends on March 31st; the summer semester takes place from April 1st until September 30th. The lecture period, i.e., the term in which lectures are held, is scheduled roughly from mid-October until the beginning of February and from the beginning of April until the end of July, respectively. The actual dates vary from semester to semester and can be found here: www.fau.eu/study/current-students/semester-dates/. The webpage also lists all official holidays (i.e., lecture-free days) in Bavaria and Erlangen.

3.2 Enrollment

The dates for enrollment can be found here: https://www.fau.eu/education/application-and-enrollment/deadlines-and-documents-for-enrolment/. Your enrollment consists of the following steps:

- You are already registered at www.campo.fau.de. Please generate a request for enrollment through the portal. The procedure and necessary documents for enrollment are also explained there.
- Transfer the semester fee as soon as possible. You will find the exact amount of the fee and the details for the bank transfer in Campo.
- Sign up for health insurance with a German health insurance provider and have your insurance status transmitted digitally to FAU. More information here.

After your enrollment, you will receive the activation code for your IdM user account (see 5.1 IdM-Portal) by mail. In parallel, the same information will be made available to you in Campo (section “Study Service”). After registering at the IdM portal, you can download your certificate of enrollment and **must upload a photo for your student ID card**. If you reside in Germany, the ID will be sent to you within about four weeks. **Please make sure to enter your German address in the IdM portal (if available already).** If you still live abroad at the time of uploading your photo, your student ID will be generated but not sent to your home country. It will be kept by our FAUcard Service until you enter Germany and come to pick it up. Please have a look at the FAUcard website for more information.

3.3 Housing

Once you have received your admission for the Medical Engineering degree program, **please look for accommodation as soon as possible! German universities do not provide dorms, therefore you are responsible for finding a suitable room or apartment on your own**. The housing market in the Erlangen area is extremely tense and unfortunately, many students have serious trouble finding a place to stay, especially if they have a tight budget. The situation is especially complicated at the beginning of the winter semester. You should also consider moving to nearby cities (Nürnberg, Forchheim, Fürth) and surrounding villages, as they are well connected to Erlangen via public transportation. Even for these cities, you should start looking as soon as possible. **Please make a critical assessment of your financial situation and ask yourself if you could finance a stay in a hotel or airbnb for the first months in a worst-case scenario.** Further information on how to find accommodation is available on the Medical Engineering website and here:

https://www.fau.eu/glossary/accommodation-2/

http://www.werkswelt.de/index.php?id=tipps-fuer-erstsemester&setlang=en

3.4 Re-registration

If you want to continue your studies at FAU, you must re-register for every following semester mid-way through your current semester. All students receive an email by their study advisor to their FAU email address as a reminder to re-register on time (please make sure that you check the emails to your FAU address or relay it to your private email address in the IdM portal!). The next time period for re-registration is announced on the webpages of the Student Records Office: https://www.fau.eu/study/current-students/semester-dates. The re-registration consists of transferring the semester fee to the university's bank account. You can find the bank details and more information in Campo (see 5.5 Campo). Please make sure to enter your full name and student number in the bank transaction. If you fail to do so, your transaction cannot be allocated to your student account and you will be de-registered.

3.5 BAföG

The Federal Training Assistance Act (*BAföG*) gives a monthly financial aid to students whose family cannot support them. The financial aid consists of an interest-free loan, which must only be re-paid in parts after the completion of your studies. The requirements for receiving *BAföG* are the following:

- You must be a German citizen or have a **permanent residence permit for Germany**.
- You must regularly prove by your academic achievements that you are on the way to

successfully completing your studies.

- You must have started your bachelor's degree program by the age of 30 and your master's degree program by the age of 35. Your *BAföG* application must be sent to the *BAföG* office (see 8 Useful Addresses and Contact Persons). You can find more information here: http://www.bafög.de/ (in German)

Your *BAföG* certificates to prove your academic achievements can be printed out over Campo (see 5.5 Campo). If this is not possible because you have not earned enough ECTS credits, please contact your study advisory.

3.6 Courses – a Typology

As a Medical Engineering student, you will attend a variety of course types. Here is a quick overview:

Most courses are **lectures** that take place one to three times a week and in which the lecturer presents their subject topics to the students. Lectures usually take place in big lecture halls, with many students attending, and are of a more theoretical nature. Students generally play the role of a rather passive listener, who, depending on the teaching style, might be asked some questions or can ask occasional questions themselves. It is highly recommended to bring the study material or lecture slides provided online into the lecture and take notes.

Exercises are often offered as an addition to lectures to explain the lecture content in greater detail or to show how it is applied. There are blackboard exercises and computer exercises.

During the **blackboard exercises,** the content of the lecture is repeated and discussed. The groups are significantly smaller than in the lecture, so it is possible to ask longer questions or re-address a subject. It is smart to go over the exercise material before the meeting and to write down possible questions, so you can follow the explanations of the tutor and benefit from extensive answers. The registration process for the exercise is explained by the lecturer during the first lecture session.

The **computer exercises** are designed to apply the theory taught in a computer science lecture and write your own programs. No classic teaching takes place, but tutors are present and can answer your questions while you are programming independently. Usually, there is no registration required for the computer exercises. You can drop by at the dates indicated and work on your projects. Your exercise supervisor will tell you if you must solve the exercises on your own or if

under certain conditions you can do the exercises in groups of two. The results are mostly submitted online and corrected every one to two weeks. The exercises are usually very time-consuming, so do not wait until right before the deadline to attend the computer exercise and ask questions. The computer exercises just before the deadline are usually very crowded.
Exercises can be graded or ungraded but are usually marked with ECTS credit points. They are partly mandatory to pass a certain module, partly thought to be a voluntary addition to your lectures (please consult Campo or with your lecturer).

Any additional and non-graded exercise increases the ECTS credit value with which your lecture exam grade is incorporated into the corresponding module group. Sometimes, questions about the exercises are included in the lecture exam.

Tutorials are very similar to exercises except that they are usually not mandatory and you cannot earn credits for them. They are meant for the independent solving of exercises with one or more tutors present who can answer your questions.

For **Laboratory Trainings**, you usually receive experiment instructions before your first meeting or via our online platform (see 5.4 StudOn). A lab task consists of a preparation part that must be done at home and brought to the training, and the experiment itself that is conducted at the university. It is important to give your best on the preparation as it will be reviewed by the supervisors, and it will help you to understand and conduct your experiment more easily and faster. There is always compulsory attendance in laboratory training, i.e., you must be present at all sessions. If you have missed up to 15 % of your training due to illness and have a doctor's certificate confirming this, then your training supervisor must offer you a substitute achievement with which you can compensate your absence. If you miss more than 15 % of the training, you must repeat it completely.

Seminars are usually composed of a smaller group discussing a special topic with the lecturer. It is important to actively participate in the discussion. Each student is responsible for an individual subtopic and must give a presentation during the seminar as well as write a paper about it. You can choose your own project or select one from a list. The first few seminar sessions are normally introductory meetings in which the professor teaches the most important basic knowledge. Attendance during these sessions is voluntary most of the time. As soon as the presentation phase starts, attendance is compulsory for all seminar participants. After a student has held a presentation, the subject is discussed in the group and questions can be asked.

In most lectures of the Medical Engineering program, attendance is not mandatory. You will notice this by the lack of attendance lists. You are therefore not obligated to be in the lecture hall or

course room but can work through the material at home, as it is provided by the professor on StudOn or the FAU video portal (see 5.7 Video Platforms). **We do, however, strongly recommend that you physically attend your classes, as you get to know your lecturers as well as your fellow students, and your questions can be answered immediately. Studies prove that the learning outcome (and grades!) of students who attend the lectures are significantly better than of those who don't.**

In courses at the Faculties of Medicine, Humanities, and Business and Economics, which you might take for module group M1, M7 or the "Free Choice Uni" module (M8), attendance regulations may differ. Your lecturer will let you know during the first session.

3.7 Examination Registration, Examination Period

The registration for the exams has to be done via the Campo portal (see 5.5 Campo) about five weeks after the beginning of the lecture period. The exact time period of the examination registration (three weeks in total) will be communicated to you by your study advisor via email when the registration period starts. You can also look it up in advance on the website of the Examinations Office of the Faculty of Engineering.

The fact that you are attending a *course* and are accessing the course materials via StudOn does not mean that you have to take the corresponding *exam* or are automatically registered for it. If you do not register for an examination during the official registration period, you cannot take the exam at the end of the semester.

Should any technical problem occur during registration (e.g., error report), please contact the Campo support (see 8 Useful Addresses and Contact Persons). Should any examinations from the Medical Engineering curriculum be missing in the Campo portal so that you are unable to register, please inform your study advisor.

If there are different ECTS credit points offered for the same exam, you must achieve at least the value given by your module catalog. You may achieve more ECTS credits voluntarily and incorporate them additionally into the same master's module group, allowing your exam grade to be incorporated at a higher ECTS value into your module group. If you register for an exam with a certain ECTS credit value and fail, you are obligated to repeat this exam version at its credit value.

Only if the exams are offered individually for each achievement (e.g., lecture and exercise separately) in Campo, you are allowed to register and de-register from the respective exam or achievements independently. You have time to decide which type of exam you want to take until the exam registration period.

Exams for the module "Flexible Budget Faculty of Engineering" (M7) and "Free Choice Uni" (M8) are normally not listed in your Campo account. In this case, you have to select "Register for electives" in Campo and use the search function. This works best if you search for the exam title or the exam number. The exam title is in most cases identical or very close to the title of your

module/course. If this search does not work, you can ask your lecturer in the next lecture session or in the StudOn forum to give you the exam number. Please avoid asking your lecturers for the exam number via email in order to save them from being bombarded with emails!

The examinations take place in the lecture-free period (semester break). The **first examination period at the Faculty of Engineering takes place in the first two weeks after the end of the lecture period** and the **second period in the last four weeks of the semester break** (i.e., partially during the official start of the new semester). The exams during the second exam period are still regarded as part of the semester in which its registration took place. You can find the scheduled exam periods for the Faculty of Engineering here. The exact time and room of an exam is published in Campo around two weeks before the exam date. Please note that the exam periods and modalities at our other faculties can be different.

3.8 Exam Preparation

In order to prepare for the exams, it is recommended to start studying regularly from the start of the lecture period. The best way to stay on track is to attend the exercises and tutorials, in which the lecture content is explained in detail and you can ask questions. Once the exam dates are approaching, you should schedule enough weeks (8-12 as a rule of thumb) for studying and determine certain hours of each day in which you will be studying. Do not forget to take breaks regularly! Six hours of pure studying (over the course of a day) are considered ideal. Do not solely study the lecture content. Contact the Student Association Medical Engineering (FSI MedTech) or, depending on your subject, the Student Associations Computer Science or Electrical, Electronic and Communication Engineering (see 8 Useful addresses and contact persons) and ask them for old exams in order to practice with previous exam questions. Often the lecture content becomes clearer once you try to solve actual exercises. You should start out trying to solve the exercise on your own without consulting the solution. It is even more helpful if you discuss open questions and results in small study groups of three to four people. Even if you make a lot of mistakes in the beginning: don’t beat yourself up over it and ask your tutors and fellow students for help!

3.9 Exams

The master's degree program is considered successfully completed if all modules are passed with a total workload of 120 ECTS credits. The total grade is composed of the individual module grades according to their ECTS credit value. Module group M6 (Research Laboratory and Academic Laboratory) is non-graded, hence the academic achievements are not included in the total grade. Therefore, the total grade is determined on the basis of 110 ECTS credit points. However, module group M6 must also be completed. Exams can have the following formats:

Oral Examination (abbreviation: o): conducted by an examiner (lecturer of the subject) and a second attendee, who does not ask questions but protocols the exam. The oral exam usually takes about 30 minutes. Your examiner is generally interested in creating a pleasant and conversational atmosphere and tries to steer you back into the right direction if you seem to stumble over a problem. We also encourage you to ask for clarification if you have not understood the question or problem, and to admit if you do not know the answers on a certain topic. It is always better to speak (even if you are not completely sure if your answer is correct) than to sit there in silence and wait until the time is up.

Written Exam (abbreviation: w): depending on the information provided in the module catalogs, a written exam can take 60, 90 or 120 minutes. The exam questions can be open questions, multiple choice or a mix of both. Before and during the exam, the supervisors will indicate how much time you have, and once the time is up, there will be no extension. Therefore, we recommend taking a couple of minutes at the beginning of a test so you can assess the number and difficulties of the individual questions and estimate how much time you will need for answering each question. Always start with the tasks you feel most confident with and don't spend too much time on tasks you can't get past!

Electronic Exam (abbreviation: e-exam): Some professors conduct digital exams. Inthis case, the exam takes place at a certain date under supervision on a computer in one of the CIP Pools (computer pools).

Exercise Achievement: Here, students must submit tutorial exercises on a regular basis (usually weekly).

Laboratory Achievement: It includes performing practical problem solving and writing an experiment protocol and a laboratory report.

Seminar Achievement: It generally consists of a presentation and a written report of a pre-determined topic.

All of these examination types can appear in the form of a graded course achievement (gCA) or an ungraded course achievement (uCA). A graded course achievement is defined through its grading, whereas for ungraded course achievements only the successful completion is evaluated (pass/fail). Ungraded course achievements can be repeated as often as necessary. The ungraded pass/fail scheme is commonly applied in laboratory trainings and exercises. **For graded exams, you have a maximum of four exam attempts, meaning that if you fail your fourth exam attempt, you are automatically deregistered from your study program.**

A **Portfolio Examination** (abbreviation: PfE) is an exam consisting of several parts.

You can look up in Campo (see 5.5 Campo) which achievement or examination type is demanded for which module as well as the duration of the exam (e.g., “90 w” = 90 minutes of written exam).

For the “Free Choice Uni” (M8) module group, the examination regulations depend on the respective faculty your chosen course belongs to. The only two criteria that are important for M8 are that you must receive a **graded** achievement and that you take an **on-site exam (or online exam with identity control)**.

For classes that are only held in the winter semester, there is almost always a repeat exam offered in the summer semester (and vice versa). You can generally take the repeat exam as your first attempt in most cases. Please consult with the responsible examiner when in doubt.

Once the correction of the exam is completed and the grades are registered, you can see the list of your exam results in Campo (see 5.5 Campo). Please be patient, sometimes the results are not published until the beginning of the next exam registration period. Some professors publish the preliminary exam results on StudOn (see 5.4 StudOn) or via email. You always have the right to access your corrected exam and ask questions if you are not satisfied with your grade or correction. Your examiner must provide you with an appointment for the inspection of the exam. If your objection to the exam correction is justified, your grade can be corrected to your advantage.
In some classes (especially seminars and electives from different faculties), you will receive your results in form of a separate document, so called “Scheine” (Paper- or PDF certificates). They must be submitted to Ms. Jahreis of the Examinations Office, so that she can enter the results in Campo.

3.10 Attempts of Deception, Plagiarism

It is obvious that using non-permitted devices (notes, books, cell phones, etc.) is prohibited during exams. If you are caught in such an attempt of deception, you will automatically receive a 5.0 as your grade and fail the exam.
The same applies to tutorial exercises, seminar papers, or final theses in which content is partly or completely copied from another person or generated with the use of AI-based tools such as ChatGPT or similar. The use of such tools is only permitted if it is explicitly authorized by your supervisor (in written form), for example if the topic of the task/paper itself deals with AI. If you must solve a programming exercise and copy code from a fellow student, you will get yourself and the other student in trouble. Both will receive zero points and are not allowed to submit any tutorial exercises for the rest of the semester. In addition, the Examination Office must be informed, and measures will be taken.

3.11 Withdrawal from Examinations

If you have already signed up for an exam, but later on do not feel sufficiently prepared, you can withdraw from it via the Campo portal until the end of the third working day (a working day is considered all days from Monday to Friday, excluding holidays) before the exam date; no explanation is needed. If your exam takes place on Monday, you can withdraw your registration on Campo until 23:59 on Wednesday. **Take these deadlines seriously as it is a wasted attempt to either take an exam unprepared or not show up at all.** Exams at other faculties can have different deadlines, so you need to research the withdrawal deadlines for an exam in due time.

A withdrawal two working days before the exam (in our example Thursday) or later, requires significantly more action from your side. **You must report an inability to take the exam due to health reasons to Ms. Jahreis at the Examinations Office** (the form called “Krankmeldung” can be found here https://www.fau.eu/study/current-students/examination-matters/examinations-office-faculty-of-engineering/ under the category “Information on inability to sit examinations due to illness”). To do so, you need a **doctor's certificate** which verifies that you are unable to take the test and which contains a description of your symptoms and a diagnosis. **If on the day of the examination you cannot attend an examination for reasons outside your control (e.g., traffic, accident, or disruption to public transport), you must also report this to the Examinations Office immediately.** The certificate for examination inability must be submitted before or on the day of the exam. You can send a scan of the certificate via email, but have to submit the original document within one week (in person or via mail). If the deadline has passed and no certificate has been submitted, the exam is considered failed.

If you take part in an exam, the supervisor will distribute the exam papers at some point. Until this moment you have the option to leave the room for health reasons, get a doctor's certificate right after and submit it to the Examinations Office.
If you want to interrupt your exam due to medical reasons after you have received your exam documents, do so immediately after you have realized the situation, inform the supervisor, then leave the exam and visit a university-appointed doctor. A list of such doctors can be found here: https://www.fau.eu/study/current-students/examination-matters/examinations-office-faculty-of-engineering/

Important!
By completing the examination as normal, you confirm that you are in good health and are able to sit the examination. You cannot submit an application for special consideration retrospectively (even with medical certificates).

3.12 Repeating Exams

Exams can be repeated if you fail them, but you only have a maximum number of four attempts. Academic achievements without grades can be repeated as often as necessary. For the master's thesis, you only have a second attempt.

If you fail an examination, you can decide for yourself when you would like to register for a repeat exam. The earliest opportunity to retake the exam is in the semester following the failed attempt, but you can also retake the exam in later semesters. Nevertheless, we strongly recommend that you take the next possible repeat examination, as it cannot be guaranteed that repeat exams for compulsory electives will be offered over a longer period of time. In addition, retaking exams rather sooner than later helps to counteract avoidance and procrastination tendencies, which can be extremely detrimental to your academic success (please keep the standard period of study in mind!). From a cognitive perspective, it also makes sense to retake an exam while your knowledge of the subject is still fresh. If a failed exam is a compulsory module (see footnotes in your module catalog), you must take and pass the exam at some point during your studies. If it is not a compulsory module, you can choose not to retake the exam and instead register for other examinations from the same module group, which you will then start again with a first attempt. It is important that you fulfill the ECTS requirements for all module groups at the end of your studies.
If you fail any exam in the fourth attempt, your studies in Medical Engineering at FAU will finally count as failed and you will be deregistered from the study program. Failing a Medical Engineering program at a German university will usually block you from enrolling in Medical Engineering programs at all other German universities. Therefore, it is necessary that you inform yourself

thoroughly if you would like to transfer to another study program.

Passed exams/achievements cannot be repeated.

3.13 Additional Course Achievements

Once you have achieved the mandatory 120 ECTS credit points for the master's degree, you will not be de-registered from the university immediately but stay enrolled until the end of the ongoing semester. You can make use of this time and voluntarily take more exams for the compulsory electives or electives to improve your final grade. **Only exception: Exams that have already been passed cannot be repeated!**
If you decide to take more exams, please communicate this to Ms. Jahreis of the Examinations Office so that your master's certificate will not be issued prematurely. At the end of your studies, you must inform her which achievements should be listed in your master's certificate. If you don't communicate a preference, the best achievements are selected. In the Transcript of Records, all of your achievements will be listed (the ones that were not part of your final grade are listed in the category "Additional modules").

3.14 Calculation of Grades

Campo calculates the current total grade and grades of the module groups (e.g., "Medical specialization modules/M1") with every new entry. The individual modules are incorporated into an average grade according to their ECTS value. The average grade of a module group is incorporated into the master's exam according to the ECTS value of the group. This grade is not rounded but takes only the first decimal into account.
Should you have acquired more achievements than the ECTS credits required in a certain module group and do not want to automatically have the best-graded modules listed, then you must contact the Examinations Office before your final certificate is issued and communicate which achievements should be incorporated into your final grade. The master's final grade is also not rounded up but cut after the first decimal.

3.15 Studying Abroad

If you are thinking about going abroad during your studies, please **start your planning process early, ideally 12-18 months in advance**. For a first consultation for stays abroad within the Erasmus partnerships and the direct exchange program of the Faculty of Engineering (e.g., with Australia, Asia or South America), you can turn to the Office of Student Information and Advice (StIB: https://www.tf.fau.eu/studying/office-for-student-information-and-advice-stib/). A good overview of your options for semesters abroad is listed on the homepage of FAU's International

Office (https://www.fau.eu/education/international/going-abroad/) or on the Medical Engineering webpage under https://www.medical-engineering.study.fau.eu/current-students/study-abroad/.
As the master's curriculum is very flexible, you are very free when planning a stay abroad. In general, the medical subjects offered by foreign universities are well-applicable for accreditation in the module group Medical specialization (M1), just like technical and laboratory trainings are well-applicable for accreditation as Academic Laboratory (M6.1 see https://www.medical-engineering.study.fau.eu/current-students/academic-laboratory/). Furthermore, the Research Laboratory (M6.2, see https://www.medical-engineering.study.fau.eu/current-students/research-laboratory/) is a suitable academic achievement to complete during a stay abroad. In this case, you need a supervisor at one of the chairs at the Faculty of Engineering at FAU. They must issue the form for Research Laboratory, which you can download on the Medical Engineering homepage. The research project itself will be conducted at the university abroad with further tutors. Please ask your FAU supervisor in advance if you can carry out the Research Lab module abroad under their (remote) supervision.
The Flexible Budget Faculty of Engineering/M7 is another good option to incorporate modules from abroad, as the only two criteria for this module group are that they cover technical content on master's level (to be confirmed by your FAU officer for accreditation – please note the focus on innovation and entrepreneurship for the specialization HMDA). Courses about language and culture can be used for M8/Free Choice Uni.

The offer of partner universities for Medical Engineering is constantly under development, our recent partner universities can be found here: https://www.medical-engineering.study.fau.eu/current-students/study-abroad/. Medical Engineering students can also participate in the Erasmus exchange programs of the departments involved in the study program (Electrical Engineering, Computer Science, Mechanical Engineering, Material Science and Chemical Engineering and Bioengineering, depending on your specialization). Just consult the corresponding webpages.
It is also possible to write a thesis paper abroad. In this case you must have an authorized FAU supervisor who agrees to let you write your master's thesis under external technical supervision. Our chairs often already have established contacts abroad, so it is worth asking! A request for accreditation will not be necessary, because the FAU supervisor will determine the grade.
In every other case, you should make sure before leaving that your achievements abroad will be accredited for your studies at FAU. Before studying abroad, students and the officer for accreditation for Medical Engineering commit to a so called "learning agreement", a document which defines which courses from abroad can be accredited for which modules at FAU. These modules must generally correspond with the contents and learning outcomes at FAU. A good way of determining whether classes are equivalent is to compare the external modules with the ones from FAU and highlight the common content. **If 80% or more of the material is identical, there is a**

realistic chance of accreditation. Accreditation for electives (Flexible Budget Faculty of Engineering/M7, FreeChoice Uni/M8) can be handled more flexibly. Please ask your officer for accreditation. In the “Study abroad” section of the Medical Engineering website you can download an example sheet, in which you can insert the external module descriptions, credits and further details. This sheet is to be sent back to your officer for accreditation, who will discuss the possible accreditation with the person responsible for the FAU modules.

The more information is provided about the foreign subjects, the higher your chances of accreditation are. Invest some time and effort into researching the information! With short content descriptions that might not even resemble the modules at FAU, you only irritate your professor and do little to improve your chances. Instead, demonstrate that you have read your study offers carefully and make your information available as reader-friendly as possible. It is helpful to contact the professors at your foreign university before leaving Germany and to ask for a detailed content description.

If the responsible lecturer for the module at FAU gives their consent, the accreditation of your foreign achievements will be inserted into the learning agreement, making the accreditation process upon your return easier and quicker. Should changes in your study plan occur during your stay abroad, please contact the officer for accreditation as soon as possible in order to adjust your learning agreement. **We generally recommend taking a leave from studies (see next chapter) for your semester abroad.**

3.16 Leave from Studies (“Leave of Absence”)

A leave of absence during your studies for important reasons can be requested at the Student Records Office (more information: https://www.fau.eu/study/current-students/student-records-office/). This includes a semester abroad, maternity and parental leave, the care of relatives, a serious health condition or other severe issues, for instance. A designated “semester for industry internships” does not exist at FAU. You can, however, request a leave of absence if an industry internship takes up more than seven weeks of the lecture period. For your studies abroad, you can take up to two subsequent semester leaves. For an internship, you can only take one semester. **A leave from studies cannot be granted for professional activities, writing a final thesis paper or a family visit abroad.**

If you are able to plan your leave of absence early on, please submit your request before re-registering for the next semester but at the latest before the start of the lecture period of the new semester. If the reason for your leave of absence only crystallizes later in the semester, you can apply on short notice. However, requests that are submitted two months after the beginning of the lecture period cannot be considered. It is also not possible to retroactively convert an already completed semester into a leave of absence semester.

During a leave of absence, the semester is not counted as an official master’s semester (but as a “zero semester”); you are therefore generally not allowed to render achievements during this semester.

The exceptions to this rule are:

- **Repeat exams**: You are allowed to take repeat exams during your leave of absence if you have failed exams in the previous semesters. Please register for these repeat exams in Campo, if desired.
- **Study abroad**: You can take exams during a study mobility phase abroad while you take a leave of absence at FAU and incorporate the academic achievements into your studies at FAU after your return.
- **If you miss exams in an official study semester at FAU due to your upcoming stay abroad** (because the semester at the foreign university starts earlier), you have the possibility of taking these missed exams after your return to FAU, even though it is during the semester leave. For this procedure, you must submit a confirmation of the academic calendar of the host university to Ms. Jahreis.

Important!

In general, it is not possible to take first exam attempts during your leave of absence. In Bavaria, however, students who take leave of absence because they are raising children have the possibility to still take first exam attempts during this time.

3.17 Accreditation of Academic Achievements

If you have rendered achievements at a different university in Germany or abroad, in a different degree program, during professional activities or a vocational training which are equivalent to those of the Medical Engineering degree program, it is generally possible to accredit these achievements for your studies. You can find out whether a Medical Engineering module is comparable to your external achievement by looking through its module description in the corresponding module handbook on the Medical Engineering homepage or Campo (see 5.5 Campo).
We recommend comparing the content description of your external achievement with the FAU Medical Engineering module and highlighting the identical elements. **If 80% of the material is identical, there is a realistic chance of accreditation.** It is always possible to accredit your achievements for the Free Choice Uni/M8 module under the condition that your achievement was graded and that it was not part of your bachelor's degree. In this last case, you do not have to search for an equivalent module at FAU.

To start the accreditation process, you must fill out the accreditation form that you can find online: https://www.medical-engineering.study.fau.eu/current-students/recognition-of-academic-achievements/
In the column "Campo module no." you must insert the corresponding module number from Campo. Please also add the module (group) number (M1, M7, etc.) from the master's module catalog. Submit the signed form to your officer for accreditation, in addition to the following documents:

- Certificate/transcript of records and an extensive module description (in German or English, please translate if necessary) or, if nonexistent, scripts, notes, old exams, literature references, etc. Only exception: If the accreditation has been determined in a learning agreement before (see3.15 Studying Abroad), you don't have to submit the aforementioned documents.
- Information on the common semester workload and the grading system of the foreign university, i.e., the number of credit points (if not ECTS credits) that should be achieved during one semester and the best and worst passing grade according to the foreign grading system.

The officer for accreditation for Medical Engineering then discusses the possible accreditation with the person responsible for the FAU modules. If the lecturers give their consent, the results will be transferred to the Examinations Office and listed in Campo; foreign grades and non-ECTS credits are transferred into the German system. By accrediting a subject from abroad for a concrete Medical Engineering module at FAU, you will receive as many ECTS credits as the corresponding

module indicated in the Medical Engineering study plan. If accredited as a “placeholder” for a module group (e.g., “Flexible Budget”), the credits will be transferred exactly into the ECTS system. Transferred foreign grades do not necessarily correspond with the German grading levels, so 2.1 will be accredited as 2.1 and not be rounded to 2.0 or 2.3, for example.

You can issue your request for accreditation during the entire time of your studies; your achievementswill stay valid, no matter when they were rendered. You also have the option to accredit unused achievements from a previous or interrupted degree or a stay abroad during your bachelor’s to the Free Choice Uni module.

Accrediting an achievement in your master’s that has already been used in your bachelor’s degree, however, is not possible.

Important!
If your accreditation has a value of 30 ECTS credits or higher, you are automatically upgraded to the next higher semester.
The accreditation of non-academic achievements (e.g., from vocational training) may not exceed half of the ECTS credit values of your degree program, i.e., 90 ECTS credits in your bachelor’s and 60 ECTS credits in your master’s.

3.18 Extending Your Studies

In case you cannot finish your master's studies within the standard duration (four semesters), you have the possibility of extending your studies by two semesters (in total six). You do not have to submit a special request, but merely re-register for the next semester (see 3.4 Re-registration).
If you need more than six semesters for your master's, you must hand in a petition to extend your studies to Ms. Jahreis of the Examinations Office and explain why this extension is necessary. You can then re-register as usual; your petition for extension should be submitted to the Examinations Office in July (for the winter semester) or in January (for the summer semester).The form can be found here. **Important: The "corona semesters" of summer 2020, winter 2020/21 summer 2021 and winter 21/22 are not counted as regular study semesters, i.e., they do not count towards the standard study duration, but are counted as 0.**

3.19 Changing Your Degree Program or University

If you wish to transfer from Medical Engineering to a different degree program, you can consult the study advisory Medical Engineering for support. Requests for accreditation of academic achievements from Medical Engineering to a different degree program must be discussed with the respective study advisory and/or accreditation representative of the new study program (see 8 Useful Addresses and Contact Persons). If you intend to transfer to another university, please consult the corresponding contacts there.
Should you be interested in switching to a degree program of a different Faculty at FAU or do not have any exact plan, you can make use of the advisory program of the Student Advice Center (ZSB, see 8 Useful Addresses and Contact Persons).

4 Students in Special Situations

4.1 Students with a Chronic Condition or Disability

Prospective and current students with a disability or a chronic condition are entitled to special support. Disabilities are categorized by physical, mental, or psychological impairments with symptoms lasting longer than six months. This includes mental conditions or dyslexia. Included in chronic diseases are all impairments that have been receiving at least one medical treatment per quarter for one year (e.g., migraine).

As the process of admission for the master's degree program Medical Engineering is conducted by an entrance examination, applicants with disabilities have the option to request compensation for their impairment and a subsequent adjustment of the examination conditions (e.g., by adding more time to the examination).

A compensation of disadvantages is also possible for exams during the course of study. Please contact the officer for students with disabilities and chronic illnesses (see 8 Useful Addresses and Contact Persons) at the latest 6 weeks before the beginning of the examination period. They can tell you in detail what a medical certificate must look like in order to receive compensation for disadvantages. Once the certificate is submitted and the compensation is greenlit, Ms. Jahreis of the Examinations Office will issue an appropriate document which should be handed in at the lab where your examination takes place as soon as possible. This is necessary to organize the compensation, e.g., by seating you separately during the exam, as you will be less disturbed by students leaving early.

Additional tips and assistance as well as independent advice centers can be found here (in German):

https://www.werkswelt.de/index.php?id=studieren-mit-behinderungen-und-chronischen-krankheiten

https://www.barrierefrei-studieren.de/

If you are unsure about issuing a request for compensation, you can contact the study advisory Medical Engineering. Your request will always be handled confidentially!

4.2 Studying During Pregnancy or with Children

As a pregnant student, you enjoy special protection and benefits. Therefore, you must report your pregnancy to ibz-mutterschutz@fau.de as soon as possible. Our study advisor for pregnant students, Ms. Kramarenkoff, will inform you about all the details that are important for you. Among other benefits, pregnant students who can prove with a doctor's certificate up to four weeks before an exam that they are in their 30th week of pregnancy and are not able to take the exam under the usual conditions are entitled to perform the exam in a different matter or arrange an extended exam

duration with their professor and the Examinations Office.
Special leave of absence conditions also apply for students with children:
Student parents can request a maternity or parental leave. The leave of absence is valid from the birth of the child until the completion of its third year (in total not more than six semesters). It is possible to postpone twelve months of this parental leave (two semesters) to a later point before the child's eighth birthday. Furthermore, a student can take up to two semester leaves (due to different reasons: stay abroad, internship, see 3.16 Leave from Studies ("Leave of Absence")) that are not included in the maternity or parental leave.

If you are interested in consultation or more information, e.g., on childcare offers at the university or living arrangements for student parents, you can make use of the Family Service of FAU (see 8 Useful Addresses and Contact Persons). Further information for students with children can be found here: https://www.werkswelt.de/index.php?id=studieren-mit-kind&setlang=en

Important!

Usually, students are not allowed to register first exam attempts during a leave of absence. In Bavaria, however, students whose reason for taking a leave of absence is to raise a child have permission to do so.

4.3 Psychological Consultation

Studying at university sometimes also means having to deal with high levels of stress. Test anxiety, difficulties in time management (procrastination) or doubts if one has chosen the right degree program are some examples of situations that can be burdensome for students. Conflicts with your partner, family members or fellow students can be difficult to handle, too.

FAU students with these or other problems can contact the psychological advisory at the Studierendenwerk (Student Services) (see 8 Useful Addresses and Contact Persons), which also has an office at the Faculty of Engineering. You can make a first contact through the open phone hour, which takes place every week. For scheduled sessions, a small contribution of 10 Euros is charged but it can be waived for students in need. The counsellors are trained psychologists and familiar with student specific issues. It does not matter what weighs on you, you will soon discover that you are not alone with your problems.

4.4 Part-time Studies

It is generally possible to study the master's degree Medical Engineering part-time with half of the time and workload, in which case your number of semesters doubles. Per study year, students can

complete up to 35 ECTS credits. The standard duration of the degree program is therefore set to eight semesters with the possibility to extend two more semesters. The master's thesis work period is 12 months long. The content of the degree remains identical to the full-time studies.
You choose your type of studying (full time or part-time) when enrolling for the master's degree program. Switching between part and full time is possible once per study year and requires a written petition to the Student Records Office. After three full-time semesters, a switch to part time is only given in justified cases. A switch to gain more time for the master's thesis is therefore not possible.
This offer is directed to professional athletes or students with children, health conditions, and caregiving tasks or with an active job. The part-time schedule, however, does not take place in the evening or on weekends, i.e., you must attend the regular classes with full time students taking place during the day and the entire week. The part-time studies therefore should only be considered if you are flexible with your working hours. **International students who require a study visa must clarify with officials of the immigration office if a part time study program is permitted. In general, a residence permit is only issued for full-time studies.**

4.5 Double Enrollment

Some Medical Engineering students are interested in the option of a double enrollment in two master's programs at the same time. They would like to study the master's program Medical Engineering at the same time as for example, the master's program in Artificial Intelligence, and to integrate identical academic achievements in both degree programs. In general, this is possible, but must be considered with care.
Apart from applying to and receiving admission to the second study program, you must submit an application to the Study Service Center of the Faculty of Engineering, which has to be approved by the deans of the faculties in question. When evaluating the application, the applicant's current study progress, duration of studies and grade average are considered.
If the approval is not granted, students can alternatively first complete one master's degree program and then begin the second one, to which suitable academic achievements of the first master's can be transferred as well (see 3.17 Accreditation of Academic Achievements). However, please note that in your second master's certificate, the accredited achievements are indicated with "accreditation from previous studies". It is important to ask yourself if this will give you an advantage on the job market.

5 Online Tools

5.1 IdM-Portal

The IdM-Portal is where you log in first after enrollment. For this, you will need the activation code you have received from the Student Records Office after submitting all enrollment documents and paying the semester fee. You will receive your personal user identification and password via post after paying the fee (if you indicate a correct address!). You will also find this letter in digital format in the Campo portal in the “Student Services” section.
With this user identification, you activate your IdM account and must upload a photo of yourself for your student card (FAUcard), which you can use for paying in the cafeteria or using the library services, for instance. After completing this step, you will receive your FAUcard within the following four weeks (if you already reside in Germany; if not, you can pick it up at the FAUcard office after your arrival).
The IdM-Portal contains your general user data. For example, you can check for which services your card is activated under the category “Services”. The button “Requests/Tasks” allows you to block your FAUcard if you happen to lose it. The email forwarding function allows you to redirect the emails you receive at your @fau address to another email address (Home » Profile » Data overview: relaying to a different email address). **If you do not use your FAU email account regularly, please use the relaying service in order not to miss important information!** Another one of your first steps in the IdM-Portal should be to activate the library services of your card by clicking on “Requests/Tasks”, “FAUcard”,“Library account activation” and follow the steps. The activation of your library account may take one to two working days. On the first page of the IdM-Portal, you can subscribe to newsletters or cancel a subscription.

5.2 CIP Pool Account

CIP Pools are open computer rooms located at different departments across the university. If you install an account via the Computer Science Department’s CIP Pools, you can only access the CIP Pools of the Department of Computer Science (blue tower). In the first two weeks of the lecture period, you have the possibility to log in to any of the Computer Science’s CIP Pools using the login name and password “cipan” and let the system give you the step-by-step instructions to install your account. You can get additional help for the process from the CIP Pool admins. Please find further information on their website.

5.3 FAUdir

The information system FAUdir is used for looking up **people and their rooms and contact information**. If you want to know where the office of your study advisor or your lecturer is located or under which phone number you can reach your contact person at the Examinations Office, you can enter the person's last name in the search bar. Tip: Always use the internal directory for your search (click "internal" instead of "public"). This gives you maximum access to FAU staff data.

5.4 StudOn

StudOn is the communication and learning platform for all FAU students. It provides you with a personal digital desktop, where you can manage the courses which you have joined. In these groups, you have the possibility to communicate with the lecturers and tutors, as well as with other students. Furthermore, you can find the material (lecture slides, exercise tasks) for the corresponding lectures and tutorials. The link to the corresponding StudOn course is embedded in the lecture details in Campo.

5.5 Campo

The Campo portal is used for the master application and administrating the enrollment at FAU. At the beginning of your studies, after receiving your admission letter, you generate your enrollment form in the Campo portal, print and sign it and send it to the Student Records Office (together with the other required enrollment documents).
During your studies, you use Campo to inform yourself about the courses and modules that are offered for your study program. You can access the course catalog for the current semester by clicking on the three bars in the top left corner of the Campo starting page and then on "Studies offered", "Show university course catalog", the "Faculty of Engineering" and your study program "Medizintechnik" (= German for Medical Engineering). Please make sure you select the correct tree structure that applies to you (Master of Science 20222 if you started your master's studies in winter semester 23 and after that). You can then find the courses for the different module groups and specializations (study fields). The puzzle piece symbol represents the modules, which may consist of different courses (e.g., lecture and exercise). If you click on the book symbol you access the course itself. By clicking on "parallel groups/dates" you can see the time of the course, the room where it takes place and the name of your lecturer. In the top left corner, you can add the course to your personal course schedule ("save to schedule"). You will now be able to find the saved course under "Home" – "My studies" – "schedule".
If you cannot find a book symbol under the puzzle piece symbol, this means that the course is not offered in the current semester (but probably in the next semester). The medal symbol stands for

the exam for the respective module, which generally takes place every semester, regardless of whether the course is offered or not.
If you click on the module, you can access its subject content (i.e., topics covered, learning objectives, recommended literature, information about the exam type).
You also use Campo to register for your exams (about 5 weeks after the start of the lecture period) and you will see your overview of exams and grades there later on.
Moreover, you can download your enrollment certificate, your current transcript of records and other official documents regarding your studies in the section “Student Services”.

5.6 Virtual University of Bavaria (VHB)

The Virtual University of Bavaria is a cooperation between Bavarian universities offering a wide range of online courses, which is free of charge for students enrolled at a Bavarian university. The VHB gives you the opportunity to take different courses simultaneously with your studies at FAU and schedule your study time more flexibly. This is an advantage if you have frequent overlaps in your schedule or if you generally prefer studying from your home. Some of the VHB courses are a part of the catalogs of compulsory electives in the master’s degree program Medical Engineering. Every graded VHB course that finishes with an **on-site exam (or an online exam with identity control)** can be used for the master’s module “Free Choice Uni (M8)”.
In order to use the online platform, you must first register on the VHB webpage (www.vhb.org/en/). Select the status “Student einer Trägerhochschule” (student at a participating university) and “Gesundheitstechnik” (Health Engineering) as your degree program (category “Studienfach”). You will be guided through the rest of the registration process. The VHB homepage informs you about the available courses and the registration and examination details. Parts of the VHB website are only available in German, but you can find a user’s manual on the Medical Engineering website: https://www.medical-engineering.study.fau.eu/current-students/.

5.7 Video Platforms

FAU provides two platforms for lecture recordings: https://www.fau.tv/, an offer of the FAU Computer Center, and https://fsi.cs.fau.de/informationen/videoaufzeichnungen, supervised by the Student Association for ComputerScience (FSI Inf). Both platforms contain videos of past and current lectures held at FAU. The videos can also help you to prepare for exams and give you the opportunity to repeat the lecture’s content, especially if you intend to take the exam to a winter semester course in the summer semester or vice versa.

5.8 Important Websites

For questions concerning your studies, your most important resource is the Medical Engineering homepage (https://www.medical-engineering.study.fau.eu/). It contains extensive information on all modules of your curriculum and also offers an **FAQ section**. The information on the homepage is available in English. The archive offers a collection of module catalogs from former semesters, which can become helpful at the end of your studies to decide which module can be used for which module group. When in doubt, consult the archive to see which module group a module belonged to when you first took the exam.
Moreover, you can find a job section on the starting page of the Medical Engineering website, in which subject-related student assistant jobs at the university and working student jobs at medtech companies are published. You can also access offers for master's thesis projects there.

The events calendar of the Faculty of Engineering's website keeps you informed on upcoming talks, conferences, trainings, networking events or job fairs:
https://www.fau.de/veranstaltungen/veranstaltungen-der-technischen-fakultaet/

5.9 VPN Client

The VPN Client (Virtual Private Network) offers you the possibility to access the university's network and its services from your home. In most cases, it is sufficient to install the Cisco VPN of FAU's Computer Center, which can be downloaded for different operating systems at the Computer Center's website (in German): www.rrze.fau.de/dienste/internet-zugang/vpn/.
By using this method, you cannot only access software provided by the Computer Center to enrolled students, but you can also use the wide range of e-books and online publications offered by the university library.

5.10 Overview: Which Tool Is Used for What?

Online-Tool:	Functions:
Idm-Portal	Editing general user information (address etc.)
	Generating FAUcard
	Blocking FAUcard if lost
	Redirecting FAUmail account to other email account
	Activating key card function of FAUcard for computer science building
	Subscribe to/unsubscribe from FAU newsletters
FAUdir	Search for FAU staff and their contact details
StudOn	Platform for communication and e-learning
	Course materials
	Forums for individual courses
Campo	Application for studies
	Requesting enrollment
	Courses and modules from WS 22/23 and onwards
	Creating course schedule
	Exam dates
	Registration for/Deregistration from exams
	Certificate for immigrations office (confirmation of study progress)
	Enrollment certificate
	Overview of grades/transcript of records
	Information on re-registration process

Figure 4: Online Tools

6 Student Life

Fortunately, your study experience does not exclusively revolve around ECTS credits, modules, and exams. Especially the Faculty of Engineering usually makes a great effort in offering social events. Many parties and events take place in the south campus buildings and outside, depending on the season. Not only the famous TechFak summer party is a big event, but also the parties organized by the student associations (FSI) of the different study programs or other student organizations. The student association FSI Medical Engineering (see 7 Glossary - Important Terms for Studying Medical Engineering) organizes several social gatherings, the FSI Computer Science is famous for their crypto parties, and in December, the student club *ETG Kurzschluss* shows the classic German movie “Die Feuerzangenbowle”. To keep yourself informed on the events, keep your eye out for posters on campus or subscribe to the mailing list/follow the social media channels of the respective organizers. If you want to get involved, help out at the events or are interested in meeting new people, you are very welcome to join the FSI Medical Engineering or any other student organization. Other opportunities to meet other students and make friends include (but are not limited to) the FAU sport courses, Erlangen’s nightlife and the maker’s space *FAU FabLab,* where students can work on their own technical projects. An overview of all student groups at FAU can be found here: https://stuve.fau.de/en/gruppen/.

Figure 5:summer event of the FSI Medical Engineering

7 Glossary - Important Terms for Studying Medical Engineering

Compulsory Courses

There are very few compulsory modules in the Medical Engineering program; they consist of the courses which teach obligatory skills (see footnotes in your module catalog). You either have to pass them or get exempted from re-taking them via a so-called “zero credit accreditation”. You have four attempts to pass them and they must be passed by the time you register your master’s thesis.

Compulsory Electives

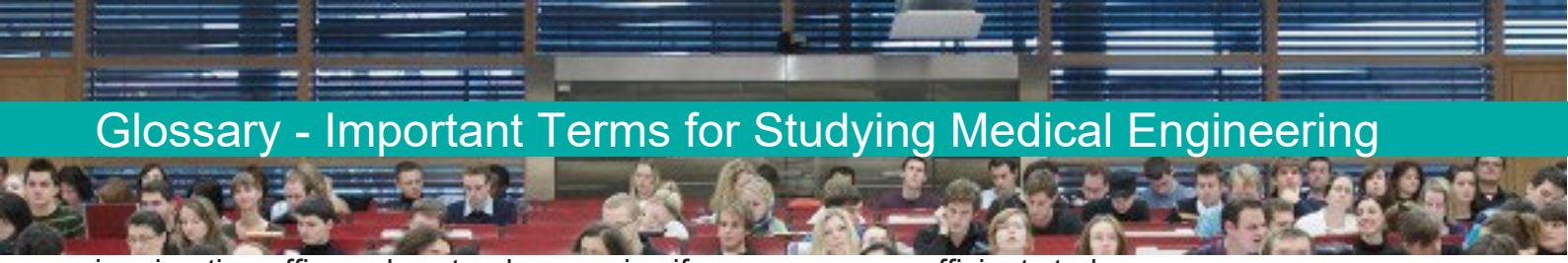
Compulsory electives consist of a preselected list for a respective module group. You can choose the modules you want to take from the list. At the end of your studies, enough modules must be passed successfully to fulfill the ECTS requirement for the group. Most module groups in the master’s degree program consist of compulsory electives. If you fail an exam for a compulsory elective, you can either choose to register for the repeat exam in the following semester(s) or you can decide not to continue with this module and choose another one from the same module grouo instead, for which you can then start with a first exam attempt again.

Degree Program and Examination Regulations (FPO)

The degree program and examination regulations Medical Engineering (FPO MT) contain discipline-related regulations for the examinations of the bachelor’s and master’s degree program Medical Engineering. If the FPO does not state any guidelines, the general degree regulations of the Faculty of Engineering ABMPO apply (see below). At the moment, the degree program Medical Engineering has five different FPO-versions: If you have begun your master’s studies on October 1, 2023, or later you are studying according to the FPO version of 2023 (appears as 20222 in Campo).

ECTS Credits

ECTS stands for European Credit Transfer and Accumulation System, which was introduced to measure the workload of students and compare study performances across Europe. The ECTS credits a student receives for completing a course represent the required workload. One ECTS credit equals a workload of roughly 30 hours. The total workload for a master‘s degree 120 ECTS credits. **There is no minimum of ECTS credit points that must be acquired per semester. It is strongly recommended, however, to achieve 20-30 ECTS points per semester to complete your studies in the standard study period plus the granted extension (4 + 2 semesters).** The



immigration office only extends your visa if you can prove sufficient study success.

Electives

Electives can be chosen from the entire course selection of FAU (from all faculties) and the Virtual University of Bavaria (VHB), provided the latter meets FAU's exam standards. The module "Free Choice Uni" (M8) of the master's degree program is an elective module. Please note that you can only use **graded** coursework **acquired through on-site exams or online exams with identity control/exam supervision** for this module.

Examinations Committee

The examinations committee of the Faculty of Engineering is responsible for all important case-by-case decisions regarding examinations. The committee meets twice per semester and discusses specific cases. Urgent decisions can be made directly by the presiding members. If you intend to appeal a decision you must approach the examinations committee. You can send your inquiry in letter format via email to Ms. Jahreis of the Examinations Office.

General Degree Program and Examination Regulations (ABMPO)

For Medical Engineering students, the ABMPO TF (the General Examination Regulations for the bachelor's and master's degree programs at the Faculty of Engineering) apply. The document can be found on the Medical Engineering website. The ABMPO contains essential regulations for all study programs of the Faculty of Engineering and is complemented in discipline-related questions by the degree program and examination regulations FPO (see above).

Module

A module is a chronologically and thematically connected teaching and learning unit, the contents of which are tested in an examination at the end of the lecture period (for the different exam types see 3.9 Exams). Colloquially, the term "subject" is also used for describing a module. For example, the module or subject "Pattern Recognition" consists of an eponymous lecture and exercise.

Module Catalog

The module catalog complements the master's study plan template. Unlike the study plan template, it is not regulated by the program and examination regulations (FPO) and can be changed every semester by the Study Commission. Once a new catalog is completed, it will be published on the Medical Engineering website (usually at the beginning of every semester). The current catalog determines which modules are available in the ongoing semester. The catalogs of previous semesters can be found in the catalog archive on the Medical Engineering website for your consultation. Please read the module catalog carefully, especially the footnotes.

Glossary - Important Terms for Studying Medical Engineering

Module Descriptions

The module descriptions determine which content is to be taught, which learning objectives are defined and which qualifications a student should acquire from the module. Furthermore, they indicate the examination type for the module and how many ECTS points it is worth. You can find the module description for your degree program in Campo - either by using the module search function or by looking up the Medical Engineering program under “Studies offered” – “Show university course catalog” – “Faculty of Engineering” – “Medical Engineering” – clicking on your FPO version and the module in question. The module descriptions are important for you to make an informed choice when it comes to selecting your courses for a given semester. If you are interested in studying abroad and/or are seeking the accreditation of external achievements in exchange for the FAU Medical Engineering modules, the module descriptions are also your primary source of information in order to compare the equivalence of courses (see 3.17 Accreditation of Academic Achievements).

Module Group

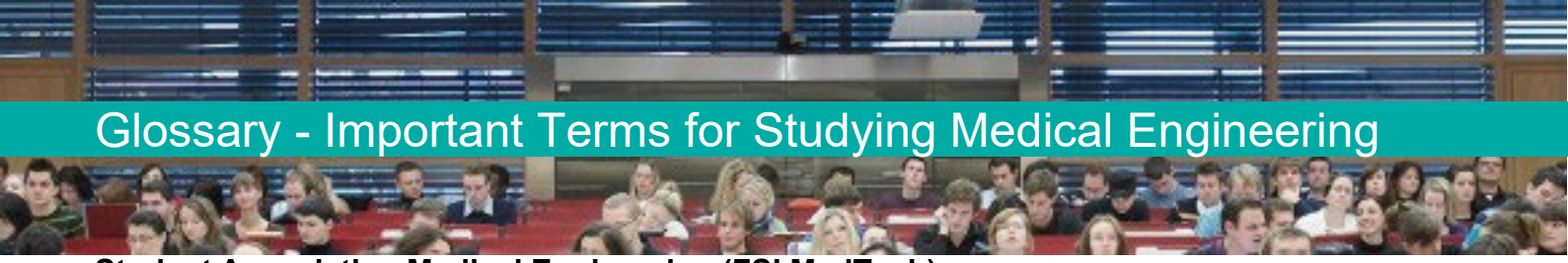
The different modules of a specialization are combined into module groups with an individual name and number (the M stands for the master module groups). Some module group titles represent a thematical unit (e.g. “Medical Specialization”), others function as a placeholder (e.g., “Free Choice Uni”). An overview of the master module groups can be found in the module catalog (https://www.medizintechnik.studium.fau.de/studierende/master/ueberblick-und-modulkataloge-fpo-2023/) on the Medical Engineering homepage.

Practical/Laboratory Training

Practical/Laboratory training takes different forms in the Medical Engineering degree program: a practical course with mandatory attendance, which usually takes place in a laboratory setting (Academic Laboratory), and the Research Laboratory, an individual research project which is carried out at a chair under the supervision of scientific staff.

Program Structure/Master’s Study Plan Template

There is no predetermined schedule in the master’s program for Medical Engineering. The study plan template gives you an overview of the required module groups and the overall ECTS credit points you must achieve for completing a module group (see 2.3.3 Structure of the master’s Program). Your module catalog tells you which courses you can select for each module group. The program and examination regulations (FPO) Medical Engineering regulate the master’s study structure.



Student Association Medical Engineering (FSI MedTech)

The student association FSI MedTech is a collective of students who represent the interests of all Medical Engineering students. The FSI has members in the Study Commission Medical Engineering, in which important decisions for the degree program are made. The FSI is also your student contact for peer counseling regarding your studies, e.g., if you need **old exams** in order to practice for your own exam, if you have informal questions about certain modules or professors or if you need **help or tips** on general topics. For these types of questions, various contact options are offered, which can be found on the FSI homepage. Of course, you can just stop by the FSI room (01.150 in the blue tower) and see if any FSI members are available for a chat. The FSI regularly organizes information events - attendance is highly recommended! They are also responsible for the social life of the Medical Engineering students and throw a variety of parties, where you can meet fellow (senior) students. Of course, you can become a member of the FSI, too (see 8 Useful Addresses and Contact Persons).

Study Commission Medical Engineering (StuKo MT)

The Study Commission Medical Engineering is responsible for all decisions concerning the study program, the examination regulations and the module catalogs for Medical Engineering. It meets every semester. Members are the head of the Study Commission (i.e. the Study Program Director), four representatives of the student association FSI Medical Engineering, the study advisor and other professors and scientific staff who are involved in the organization of the degree program. The commission's topics are general problems in the degree program and adapting the courses of the module catalog, if necessary. You can actively participate in the commission's topics as a student by contacting the study advisory or the FSI Medical Engineering with your problem or concern, who will represent your interests in the Study Commission. The site https://www.fau.eu/fau/organisation-and-committees/ gives an overview over all commissions participating in university politics at FAU.

SWS (Semesterwochenstunde)

SWS stands for "weekly lecture hour" and indicates the duration of a course. One SWS is equal to 45 minutes. Many lectures consist of 2 SWS units, but longer periods for practical courses are possible. By successfully completing a class of 2 SWS units you will usually receive 2.5 ECTS credit points, for a class of 4 SWS units usually 5 ECTS credit points. If your course is accompanied by additional tutorials or project work, you can receive up to 7.5 or 10 credit points. However, there is no direct correlation between SWS units and ECTS credit points because the workload for the preparation and follow-up work of a class varies significantly, hence the workload does not only depend on the time you spend in class.

TNZB (Technisch-Naturwissenschaftliche Zweigbibliothek)

The Science and Technology Branch Library (TNZB) is a branch of the Central University Library and is located on the campus of the Faculty of Engineering. It includes books, magazines, and other publications of the field of science and technology. In order to borrow books, you must have a student ID (FAUcard) that is activated for library services (see 5.1 IdM-Portal). The service team of TNZB offers frequent library tours in English to introduce the students to literary research.

8 Useful Addresses and Contact Persons

BAföG office (federal education assistance)
Hoffmannstraße 27
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Tel: +49 (9131)/80-02900

BAföG representative Medical Engineering
Claudia Barnickel (deputy)
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91058 Erlangen
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E-Mail: claudia.barnickel@fau.de
Open consultation hours: Mon-Thu, 1 - 4 pm
or by arrangement

Mensa/Cafeteria (meal plan)
https://www.werkswelt.de/index.php?id=php&id=mensen-cafeterien-cafebars

Central Office for International Affairs (RIA)
Helmstraße 1
91054 Erlangen
https://www.fau.eu/education/advice-and-services/contacts-central-office-for-international-affairs/

ERASMUS coordinators
Medical Engineering: Claudia Barnickel
EEI: Almut Churavy
MB: Dr. Heidi Zinser
WW: Frau Susanne Michler
INF: Dr. Zinaida Benenson
CBI: Dr. Anna Hilbig

Examinations Office (Faculty of Engineering)
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(Officer for Medical Engineering)
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Fax: +49 (9131)/85-24054
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Useful Addresses and Contact Persons

FAU Family Service
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Tel: +49 (9131)/85-23231
www.familienservice.fau.de

FAUcard Service Office
https://www.fau.eu/study/programme-start/faucard

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https://fsi.cs.fau.de/ (in German)

FSI Medical Engineering
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Room 01.150-113
91058 Erlangen
E-Mail: fsi-medtech@cs.fau.de
www.medtech.fsi.fau.de

Language Centre (SZ)
www.sz.fau.de

International Office of the Faculty of Engineering
Erwin-Rommel-Straße 60
91058 Erlangen
https://www.tf.fau.eu/person/international-office-tf/

Christine Mohr
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Tel: +49 (9131)/85-27851
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Useful Addresses and Contact Persons

Legal advice (tenancy law, labor law, immigration law, etc.)
Hofmannstraße 27
2nd floor, room 201
91052 Erlangen
Andreij-Sacharow-Platz 1
2nd floor, room 2.332
90403 Nürnberg
https://www.werkswelt.de/index.php?id=rechtsberatung&setlang=en (in German)

Lost and found (Faculty of Engineering)
https://www.tf.fau.de/infocenter/fundbuero/
(in German)

Campo Support:
E-Mail: campo@fau.de

Office for Gender and Diversity
Bismarckstraße 6
3rd floor
91054 Erlangen
Tel.: 09131 85-22951
E-Mail: gender-und-diversity@fau.de
Guidelines for dealing with sexual harassment:
https://www.fau.de/files/2021/05/richtlinie_diskriminierung_sexuelle_belaestigung_eng.pdf

Officers for Accreditation of Academic Achievements
Medical Engineering:
Claudia Barnickel
Electrical, Electronics and Communication Engineering (EEI), Information and Communication Technology (IuK), Energy Technology (ET), Engineering for teaching:
Dipl.-Ing. Almut Churavy
Mechanical Engineering, Mechatronics:
Dr.-Ing. Oliver Kreis
Computer Science:
Prof. Dr. Harald Köstler
Computational Engineering:
Dr. Felix Schmutterer
Life Science Engineering, Chemical Engineering and Bioengineering:
Dr.-Ing. Anna Hilbig
Artificial Intelligence:
Svenja Wübker

Useful Addresses and Contact Persons

Psychological-psychotherapeutic Counseling Center - Faculty of Engineering

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Benjamin Ruopp, Psychologe (M.Sc.), Psychologischer Psychotherapeut

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https://www.tf.fau.eu/studying/advice-and-services/psychological-services/

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www.rrze.fau.de/ (in German)
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Student Advice Center (ZSB), City Center
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www.fau.eu/study/prospective-students/student-advice/

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Useful Addresses and Contact Persons

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Tel: 09131 8524051
Email: beeintraechtigt-studieren@fau.de

Student Records Office
Halbmondstraße 6-8
91054 Erlangen
Room 00.034
Office hours: Mon - Fri: 8:30 - 12 a.m.
(only during the lecture period additionally: Wed 2 - 4 p.m.)
https://www.fau.eu/education/advice-and-services/student-records-office/

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Study Advisory Service International Information Systems
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E-Mail: cbi-ssc@fau.de

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Email: studium@mb.uni-erlangen.de

http://www.department.mb.uni-erlangen.de (in German)

Study Service Center EEI, IuK, CME, Engineering for teaching, Energy Technology, Autonomous Technologies

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Room 1.26

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www.eei.studium.fau.de/infocenter/kontakt/ (in German)

University sports

https://www.hochschulsport.fau.de/

9 Map

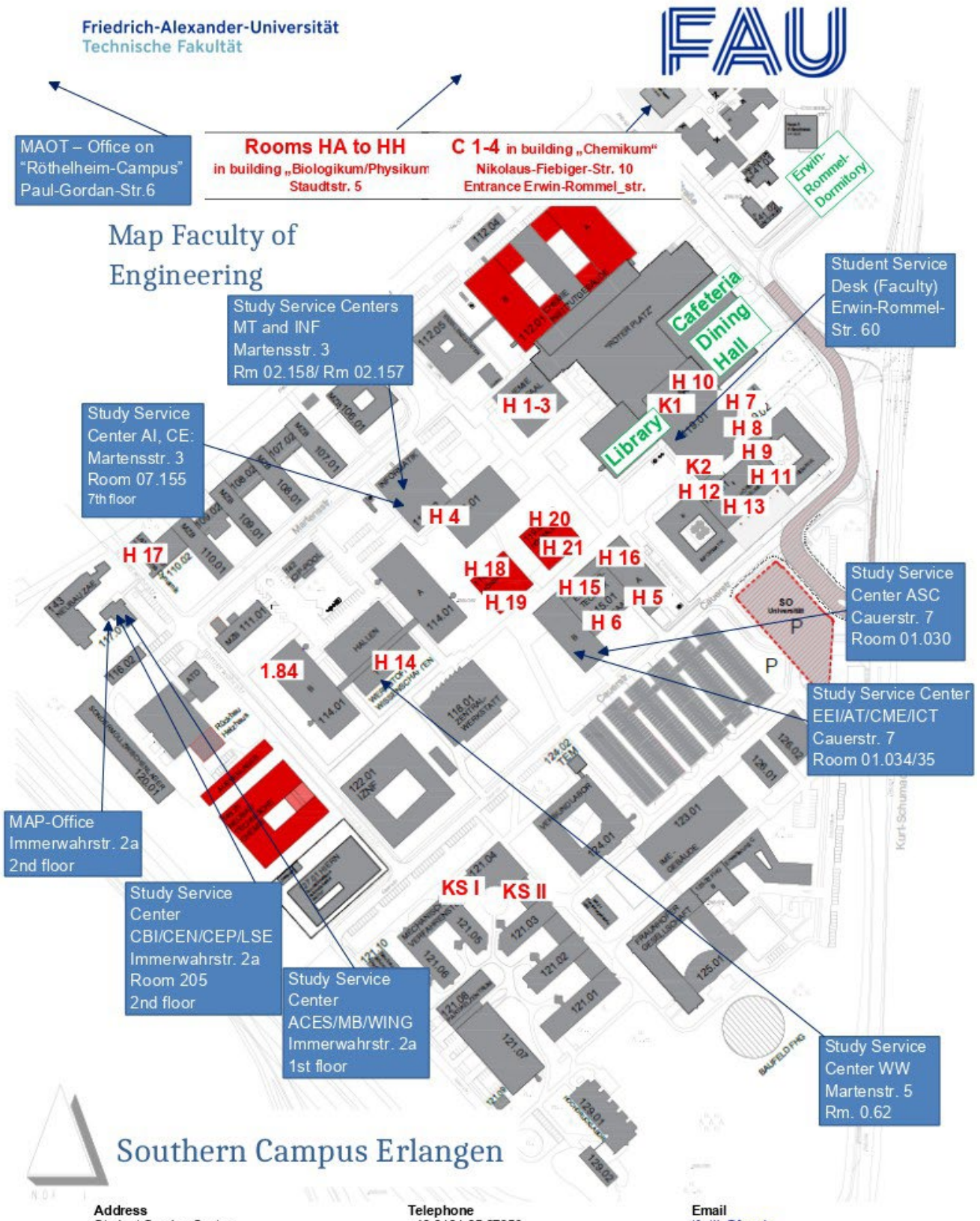

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Figure on side banner: Andy Brunner/Kaletzsch Medien
Figure 1: FAU
Figure 2: Bastian Stahl
Figure 3: FAU
Figure 4: FAU
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