

Studying abroad as a Medical Engineering student

What is important to know?

Overview



- Request for leave from studies
- Exams at FAU
- Learning Agreement(s)
- Conversion of Credits/Grades
- Accreditation Process
- Integration in your CV

Request for leave from studies

- Generally recommended: does not count as a regular semester at FAU, but you can acquire credits abroad → „safety net“ for worst case scenarios
- Can be requested at our Student Records Office until the day before the start of the lecture period (form can be found online); submit your enrollment certificate from abroad as soon as possible!
- Last possible semester for leave from studies: 8th Bachelor's and 5th Master's semester (corona semesters = „zero semesters“)
- if more than 29 ECTS are accredited per semester at FAU, your number of regular semesters will be upgraded by 1 → maybe distribute accreditation over two semesters
- Important: **During a leave from studies, you cannot take exams at FAU (EXCEPTIONS: see next slide).**
- **Online modules:** If you have few regular semesters so far and want to take some modules at FAU online, it can make sense to be enrolled at FAU and the host university abroad at the same time and take courses and exams at both institutions.

Exams at FAU

- Mandatory **repeat exams at FAU** automatically stay active (independently from whether you take a leave from studies or not) → Options:
 1. return to FAU for the respective exams
 2. ask your examiner (nicely!) for an alternative exam date (if it is an oral exam)
 3. Submit proof of your stay abroad to Mrs. Jahreis and ask her to deactivate your repeat exams during that period (will be reactivated after your return)
- Registered exams at FAU (in the 2nd exam period of the previous semester) which you miss due to your stay abroad, can also be deactivated by Mrs. Jahreis if you submit proof of your stay abroad. After your return to FAU, these exams can be reactivated and you can take them even if you are officially on a leave from studies.
- The exams taken at FAU also count towards the 29 ECTS that you can accredit without being upgraded by 1 semester. → maybe distribute accreditation over two semesters

Learning Agreement – general information

- 2 types of LAs:
 1. Erasmus Learning Agreement (Digital Learning Agreement/DLA): document by the EU, mandatory for all Erasmus students, requirement for Erasmus scholarship
 2. Learning Agreement for our Medical Engineering program: internal document by our program, not mandatory, but highly recommended for planning your studies abroad (also for mobility outside of the Erasmus program)
- You have to list courses worth 20 - 30 ECTS in your Erasmus-DLA – depending on the requirements of your host university/coordinator
- You are not obligated to pass all the courses that you have listed in the DLA.
- You are not obligated to have the courses that you passed accredited for your studies at FAU (e.g. in case of unsatisfactory grades).
- BUT: If you pass less than 10 ECTS you will be asked to justify it (and potentially to pay back the scholarship)!

Erasmus Learning Agreement (DLA)

- only for students going abroad via the Erasmus program
- Components: table A (courses you take abroad), table B (accreditation of the courses at FAU), section „changes“ for changing your courses during your stay
- has to be signed by your Erasmus coordinator at FAU (Daniela Novac for partner universities of the Medical Engineering program or Erasmus coordinators of other departments: EEI, INF, MB, WW, CBI) , by the Erasmus coordinator of the host institution and by the officer for accreditation of the Medical Engineering program (Daniela Novac)
- has to be submitted early (deadline at FAU for the WS: 15th of August, for the SS: 1st of December; maybe earlier at your host university) → **problem**: Sometimes the options for accreditation have not been evaluated and confirmed at that point.
- **workaround**: Just write the term „Free Choice Uni“ in Table B. → Erasmus-LA can be signed immediately, the concrete options for accreditation can be clarified internally later via the Learning Agreement for Medical Engineering.

Erasmus Learning Agreement

Illustration workaround: „Free Choice Uni“ in table B

Table A			
Component ^v code (if any)	Component title at the Receiving Institution (as indicated in the course catalogue ^{vi})	Semester	Number of ECTS credits (or equivalent) ^{vii} to be awarded by the Receiving Institution upon successful completion
	Italian Language Lab – L2	Spring 2022	3
INQ0092039	Cardiovascular flows modelling	Spring 2022	9
INQ1099059	Glass science and technology	Spring 2022	6
INP8083385	Computational Material Science	Spring 2022	6
			Total: 24

Recognition at the <u>Sending</u> Institution			
Table B			
Component code (if any)	Component title at the Sending Institution (as indicated in the course catalogue)	Semester	Number of ECTS credits (or equivalent) to be recognised by the Sending Institution
M8	Freie Wahl Uni	Spring 2022	3
M8	Freie Wahl Uni	Spring 2022	9
M8	Freie Wahl Uni	Spring 2022	6
M8	Freie Wahl Uni	Spring 2022	6
			Total: 24

Learning Agreement for the Medical Engineering program

- Start preparing it at least 6 weeks before you travel
- Guarantee: If you pass the courses listed in the Learning Agreement for Medical Engineering, they can be accredited exactly the way it is documented there (with the amount of ECTS stated there, in the module group stated there)
- Process: send required documents to C.B. (see [Medical Engineering website: „Current students“ – „Study abroad“](#)) → documents are sent to FAU lecturers for evaluation → you might be asked to submit further documents → feedback by FAU lecturers → you will be informed of negative evaluations, positive evaluations will be added to the Learning Agreement for Medical Eng. → You receive the LA for Med. Eng. and save it. It will also be archived in the database of the Study Service Center.

Learning Agreement for the Medical Engineering program

Options:

1. Accreditation in Free Choice Uni: only criterion = **graded** course → does not have to be evaluated by anyone.
2. „Flexible Budget Faculty of Engineering“/M7 in the Master's program: 2 criteria = **technical course** and **Master's level** → has to be evaluated and confirmed by a FAU lecturer from a similar field; student names expert from FAU with a suitable background → lecturer evaluates the course; if the lecturer agrees → accreditation with credit value from abroad (ECTS or converted credits in case of non-ECTS credits) and original course title (translated to English if necessary)
3. Accreditation as direct equivalent to an FAU module („**direct** accreditation“): overlap of contents of at least **80%** → has to be evaluated by the responsible FAU lecturer; if the responsible FAU lecturer agrees → accreditation with the ECTS value and title of the FAU module
4. Accreditation as “**placeholder**”: the course from abroad does not have a direct equivalent in our program, but is a good match contentwise and quality-wise. → accreditation for a module group (B8, M2, M3 etc.); student names expert from FAU with a suitable background → lecturer evaluates the course; if the lecturer agrees → accreditation with credit value from abroad (ECTS or converted credits in case of non-ECTS credits) and original course title (translated to English if necessary)

Learning Agreement for the Medical Engineering program

Accreditation as “placeholder” – options:

- Bachelor: Wahlvertiefungsbereich B8
- Master: M2 = Engineering Core Modules (not related to Medical Engineering), M3 = Medical Engineering Core Modules (related to Medical Engineering), M5 = Medical Engineering Specialization Modules (Special topic within the field of Medical Engineering); thin line between M3 and M5 → you can list the module group you prefer or both module groups in the LA (e.g. „M3 or M5“)

Learning Agreement for the Medical Engineering program

Preparation by the student: Read the course description thoroughly and compare its contents to the module (groups) at FAU (**do not just compare the titles!**); it can help to mark similar contents in both modules with colors

Send the following documents to your officer for accreditation (Daniela Novac):

- Completed Excel sheet (Medical Engineering website: Current students → Accreditation of Academic Achievements)
- extensive content descriptions for the courses you want to take abroad in English (translate them yourself if necessary); submit the original course syllabus/module handbook of the host university as proof (**PDF or weblinks**)
- If you cannot find (extensive) course descriptions: contact the lecturers at the host university and ask them for lecture material etc.
- If nothing works: attend the course of your choice abroad, collect the materials (presentations, mock exams etc.) → accreditation can be evaluated after your return

Excel sheet for preparing the LA

Last Name, First Name:		Name of the local university:			Friedrich-Alexander-Universität Erlangen Nürnberg
Name of the foreign University:		Degree Course:			Bachelor / Master of Science Medical Engineering, Degree Course: please select
foreign language title of the course (please submit with Weblink or module manual as PDF)	foreign language description of the course	Translation of the title (German or English)-not required if original in English!	weekly lecture hours	ECTS	Translation of the description (German or English)-not required if original in English!
Example 1: Comportement Mécanique des Matériaux	<p>A l'issue de cette UE, l'étudiant aura étudié les lois de comportement des matériaux d'un point de vue phénoménologique. Il aura été initié aux techniques expérimentales qui permettent d'identifier les paramètres pilotant les modèles de comportement mécanique. En particulier l'étudiant aura vu les mesures de déplacement avec et sans contact (notion de mesure locale et de champ, capteurs mécaniques). Une partie sera spécialement consacrée aux méthodes de mesure de champ sans contacts :</p> <p>Mesure de champ de déplacements pour le calcul des déformation en statique :</p> <p>petits déplacements (dans le plan et hors plan) : granularité, diffraction, interférométrie et holographie</p> <p>grands déplacements (dans le plan et hors plan) : suivi de marqueurs, phénomène de moiré.</p> <p>Analyse des champ de contraintes : photoélasticité 2D.</p> <p>Recourt à des techniques d'analyse et de traitement d'images : la photomécanique</p> <p>Notion de Corrélation d'images numériques, analyse de franges et le suivi de motif</p> <p>Introduction sur la mesure de champ de déplacements en dynamique.</p> <p>Discretisation temporelle et analyse de franges en dynamique.</p>	Mechanical behavior of materials	4	6	<p>At the end of this course, students will know the laws of behavior of materials from a phenomenological point of view. Experimental techniques have been introduced to the model parameters that describe the mechanical behavior. In particular, the students have seen displacement measurements with and without contact (term used in local measurement and field mechanical sensors). A part will be devoted to the methods of contact field measurement:</p> <p>Measurement of displacement field for the calculation of static deformation:</p> <p>small displacements (in-plane and out-of-plane): granularity, diffraction, interference and holography</p> <p>large displacements (in-plane and out of plane) tracking markers, moiré phenomenon</p> <p>Analysis of the stress field: 2D stress optics.</p> <p>Use of analysis and image processing techniques.</p> <p>Concept of digital image correlation, analysis and monitoring of fringe patterns.</p> <p>Introduction to dynamic measurement of a field shift.</p> <p>Time discretization and dynamic analysis of fringes.</p>

Conversion of Credits

Conversion non-EU Credits to ECTS: $x = C_d (C_{FAU}/C_{For})$

C_{FAU} = credits FAU per semester (30)

C_{For} = foreign credits per Semester

C_d = credits obtained for a foreign module

Conversion of grades

Formula for conversion of grades (Bavarian formula): $x = 1 + 3 \cdot (N_{\max} - N_d) / (N_{\max} - N_{\min})$

N_{\max} = best possible foreign grade

N_{\min} = worst foreign passing grade

N_d = achieved foreign grade

In case of exceptions to this formula (e.g. the best grade is never assigned): submit official proof by the host university together with your request for accreditation).

How to process the accreditation

After your return, you submit the following documents to your officer for accreditation (Daniela Novac):

- Transcript of Records from the host university
- Learning Agreement, which has been signed before going abroad
- form for accreditation, completed and signed (Medical Engineering Website: Current Students → Accreditation of Coursework Achievements)

Your officer for accreditation processes the request, converts the credits and grades and sends the form to the Examinations Office. → Your credits and grades appear in Campo after 4-6 weeks max.

How to process the accreditation

- You can process your request for accreditation until the end of your studies.
- You decide if and which courses you want to have accredited (no automatic accreditation).
- Achievements you completed during a stay abroad in your Bachelor's studies but haven't used for your Bachelor's degree may be used in your Master's (e.g. Free Choice Uni)
- Important: You can only request the accreditation of foreign courses if you want to use them for your degree. An accreditation to list courses in the „Additional Achievements“ section of your Transcript of Records is not possible.

Processing the accreditation: form

To be filled in by the student (please use one line per examination)										To be filled in by the Examinations Office:			
Previous study:		Accreditation of achievements completed abroad						Name of FAU achievement to be accredited:	Mein campus examination no.	Accredited as:			Vocational qualification ⁶
Name of completed achievement:	Grade	Mobility programme ¹	Type of stay ²	Start date ³	End date ³	Months ⁴	Country ⁵			ECTS	Accredited (grade) ⁷	Not accredited ⁸	
Data Science	7	Erasmus	Study	01/09/21	28/02/22	6	Spain	M2					

Integration in your CV

Rosa Riera, Head of Employer Branding, Siemens: „A **global mindset** and **global experience** are important to us.“

Integration in your CV

Make your studies abroad part of a **global mindset**: What do your studies abroad tell about you and your professional goals? E.g.:

- You consciously choose the host university for an academic focus that you cannot study at FAU.
- You are eager to learn a new language (also before and after your stay).
- You want to build a network with international companies. → Erasmus also funds industry internships after your graduation.
- You work on your intercultural competencies:
 - FAU-Certificate „Interkulturelle Kompetenz für Studierende“, join an international student initiative (BEST, Technik ohne Grenzen, FAU Volunteers for Internationals, FAU buddy program)
 - Talk to international students on campus, choose international project partners or study groups, attend English courses at FAU
 - Stay in touch with your Erasmus friends, they will be an international professional network one day.

Integration in your CV

In a nutshell: Your studies abroad are not just a one-semester experience, they can be the beginning of a life-long journey.

Enjoy it!!! 😊

Questions?

