

How to get through your studies in BEMP: legal aspects and specific information

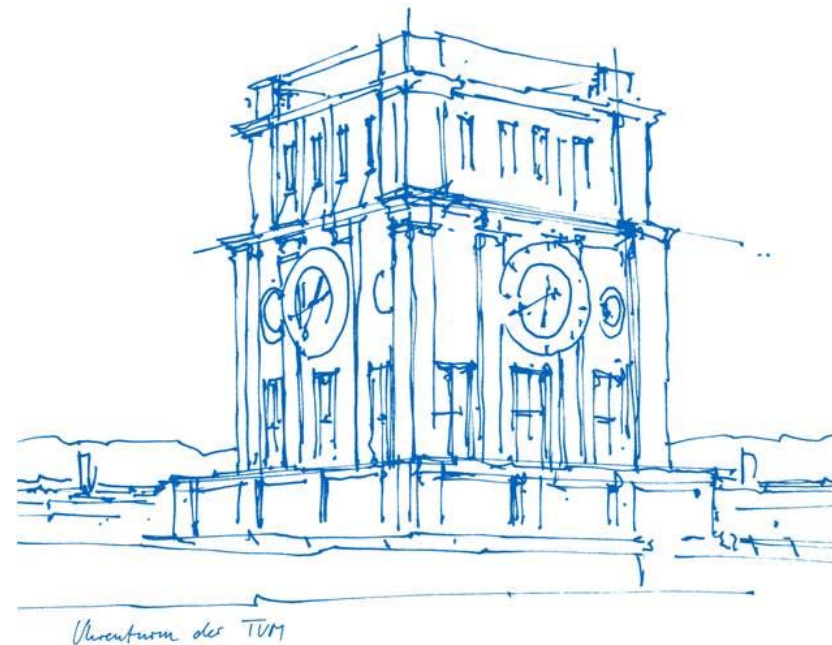
Dr. Marianne Köpf

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TUM School of Natural Sciences

Professional Profile Physics

Academic Administration



Academic Counseling @ studium@nat.tum.de



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Information about the Degree Program (I/II)

[Link BEMP Website](#)

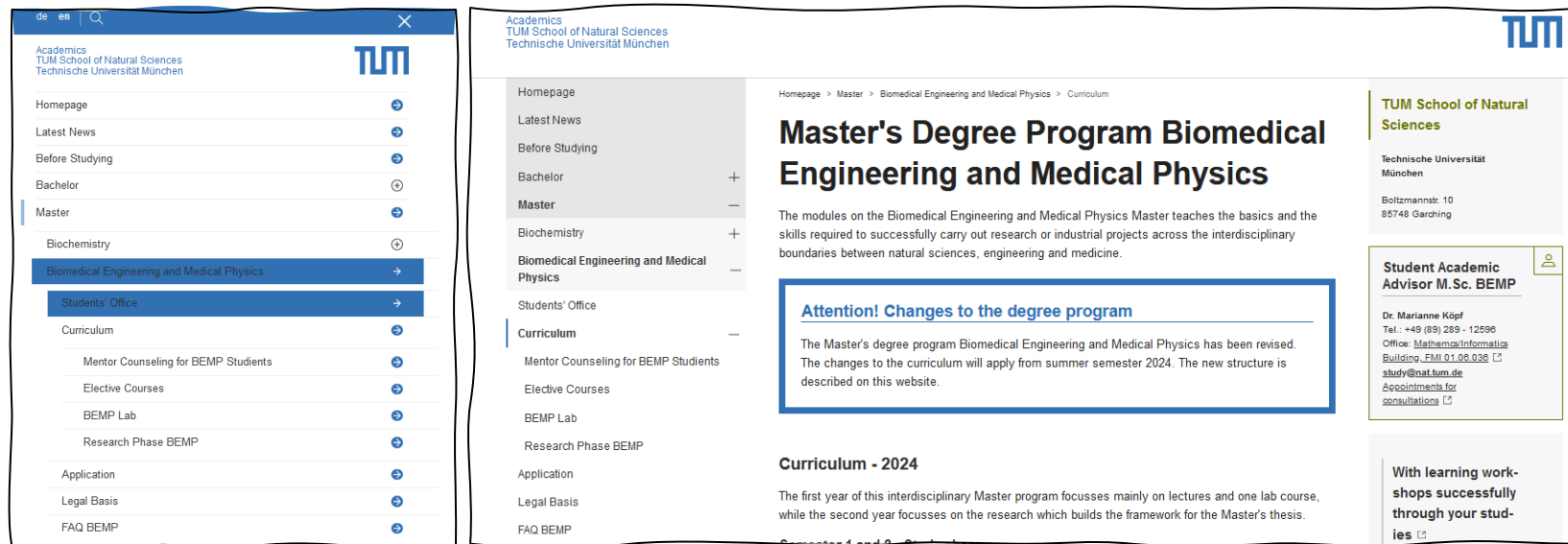
The image displays two screenshots of the BEMP website. The left screenshot shows the main page with a highlighted box containing the text: "Attention! Changes to the degree program. The Master's degree program Biomedical Engineering and Medical Physics has been revised. The changes to the curriculum will apply from summer semester 2024. The new structure is described on this website." The right screenshot shows the curriculum page with a similar highlighted box and a section titled "Curriculum - 2024" which states: "The first year of this interdisciplinary Master program focusses mainly on lectures and one lab course, while the second year focusses on the research which builds the framework for the Master's thesis."

Ask NATI! :-)



Information about the Degree Program (I/II)

[Link BEMP Website](#)



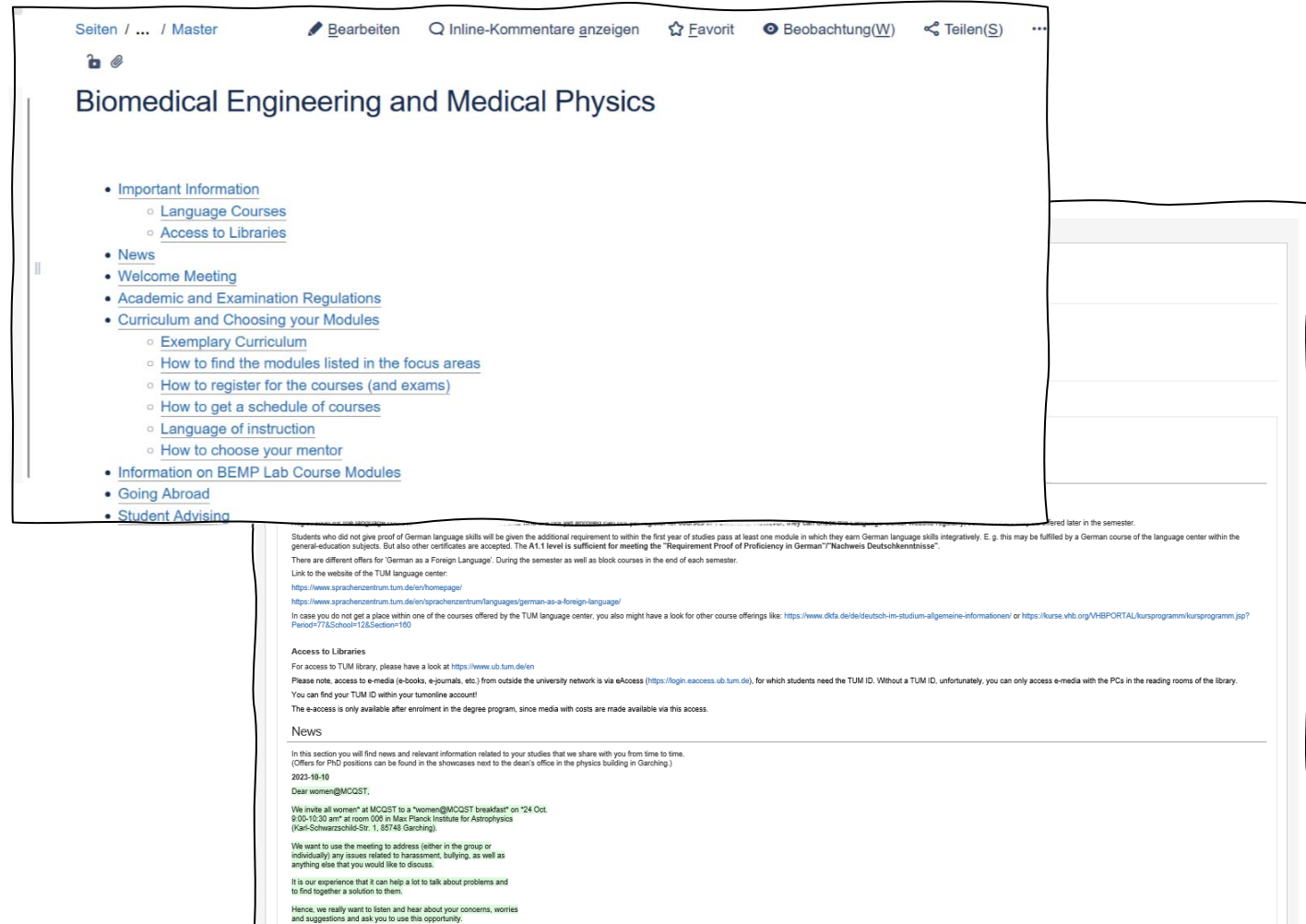
The screenshot shows the website interface for the Biomedical Engineering and Medical Physics (BEMP) program. On the left is a navigation menu with categories like 'Homepage', 'Bachelor', 'Master', 'Biochemistry', 'Biomedical Engineering and Medical Physics', 'Students' Office', 'Curriculum', 'Mentor Counseling for BEMP Students', 'Elective Courses', 'BEMP Lab', 'Research Phase BEMP', 'Application', 'Legal Basis', and 'FAQ BEMP'. The main content area features a breadcrumb trail: 'Homepage > Master > Biomedical Engineering and Medical Physics > Curriculum'. The main heading is 'Master's Degree Program Biomedical Engineering and Medical Physics'. Below this, a text block explains the program's focus on interdisciplinary research. A prominent blue-bordered box contains the text: 'Attention! Changes to the degree program. The Master's degree program Biomedical Engineering and Medical Physics has been revised. The changes to the curriculum will apply from summer semester 2024. The new structure is described on this website.' To the right, there is contact information for the TUM School of Natural Sciences and a 'Student Academic Advisor M.Sc. BEMP' section for Dr. Marianne Köpf, including her phone number, office location, email, and appointment information. A final section mentions 'With learning workshops successfully through your studies'.

Ask NATI! :-)



Information about the Degree Program (II/II)

[Link Wiki BEMP](#)
=> „Beobachten“



Seiten / ... / Master Bearbeiten Inline-Kommentare anzeigen Favorit Beobachtung(W) Teilen(S) ...

Biomedical Engineering and Medical Physics

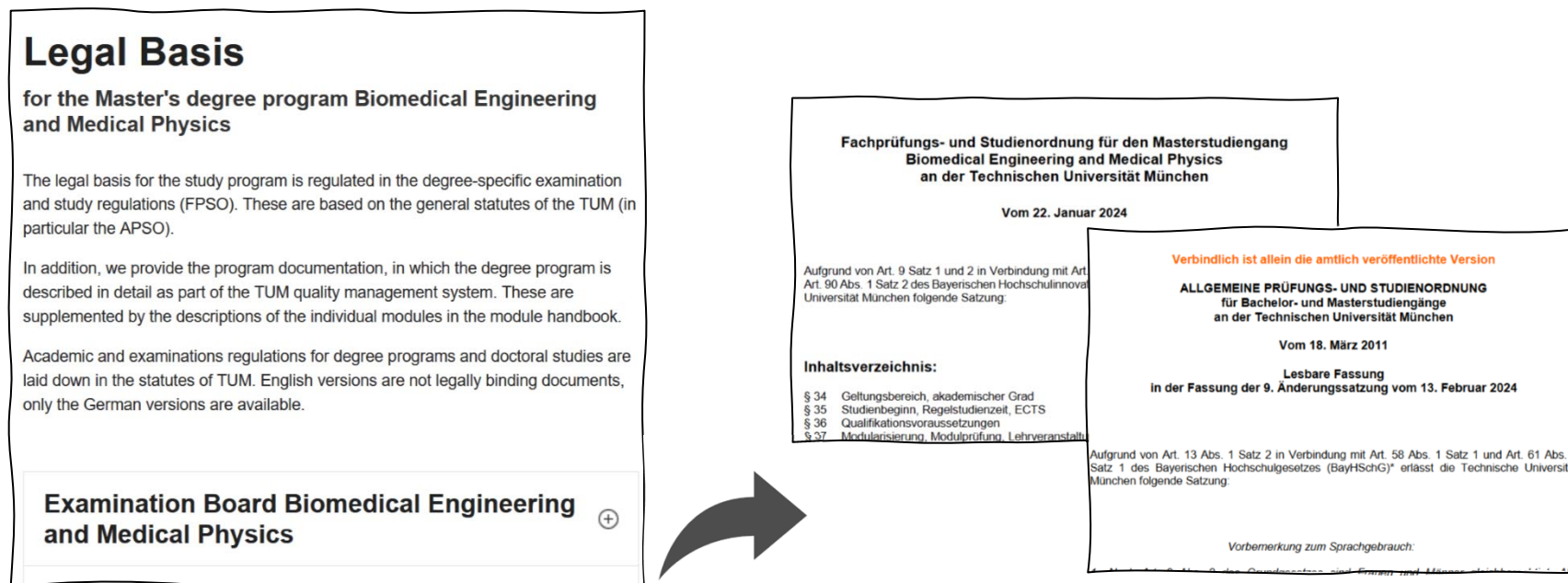
- [Important Information](#)
 - [Language Courses](#)
 - [Access to Libraries](#)
- [News](#)
- [Welcome Meeting](#)
- [Academic and Examination Regulations](#)
- [Curriculum and Choosing your Modules](#)
 - [Exemplary Curriculum](#)
 - [How to find the modules listed in the focus areas](#)
 - [How to register for the courses \(and exams\)](#)
 - [How to get a schedule of courses](#)
 - [Language of instruction](#)
 - [How to choose your mentor](#)
- [Information on BEMP Lab Course Modules](#)
- [Going Abroad](#)
- [Student Advising](#)

Access to Libraries
For access to TUM library, please have a look at <https://www.lib.tum.de/en>
Please note, access to e-media (e-books, e-journals, etc.) from outside the university network is via eAccess (<https://login.ezaccess.lib.tum.de/>), for which students need the TUM ID. Without a TUM ID, unfortunately, you can only access e-media with the PCs in the reading rooms of the library.
You can find your TUM ID within your tumonline account!
The e-access is only available after enrollment in the degree program, since media with costs are made available via this access.

News
In this section you will find news and relevant information related to your studies that we share with you from time to time.
(Offers for PhD positions can be found in the showcases next to the dean's office in the physics building in Garching.)
2023-10-10
Dear women@MCOST,
We invite all women* at MCOST to a "women@MCOST breakfast" on *24 Oct. 9:00-10:30 am* at room 005 in Max Planck Institute for Astrophysics (Karl-Schwarzschild-Str. 1, 85748 Garching).
We want to use the meeting to address (either in the group or individually) any issues related to harassment, bullying, as well as anything else that you would like to discuss.
It is our experience that it can help a lot to talk about problems and to find together a solution to them.
Hence, we really want to listen and hear about your concerns, worries and suggestions and ask you to use this opportunity.

Academic and Examination Regulations (FPSO)

The **Academic and Examination Regulations (FPSO)** are, together with the General Academic and Examination Regulations (APSO), the contract you signed with the university at the time of enrolment. It is very important that you are familiar with the contents of these regulations. => [Link](#)



Curriculum - Overview

	Semester	Module			Credits in total
study phase	1.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 20 CP		30
	2.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 10 CP	BEMP Lab Course 6 CP	Genera Education Subjects 4 CP
research phase	3.	Master's Seminar 15 CP		Master's Work Experience 15 CP	30
	4.	Master's Thesis 30 CP			30

Curriculum - Overview

	Semester	Module			Credits in total
study phase	1.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 20 CP		30
	2.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 10 CP	BEMP Lab Course 6 CP	Genera Education Subjects 4 CP
research phase	3.	Master's Seminar 15 CP		Master's Work Experience 15 CP	30
	4.	Master's Thesis 30 CP			30

Mandatory Modules (graded)

		Semester		
study phase	1.	Mandatory modules (two out of four)	10 CP	
	2.	Mandatory modules (two out of four)	10 CP	
research phase	3.	Master's Seminar	15 CP	30
	4.	Master's Thesis	30 CP	30

PH2001
Biomedical Physics 1 (5 CP)

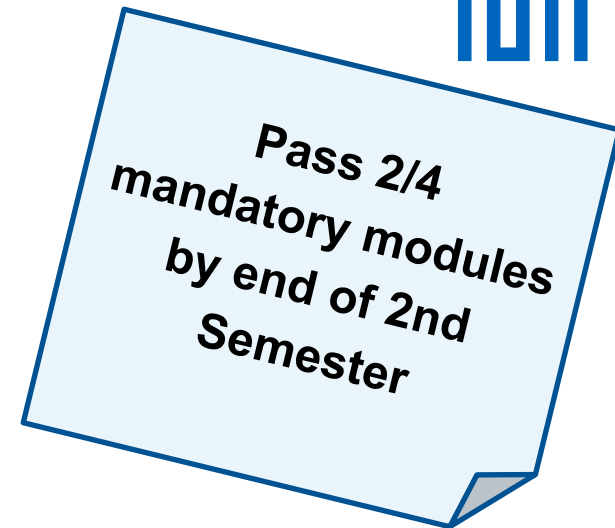
PH2002
Biomedical Physics 2 (5 CP)

NAT3025
Biostatistics (5 CP)

MEBB256
Introduction to Bioengineering (5 CP)

Credit Limit

There is a credit limit for the mandatory modules



- **you must pass two mandatory modules within the first two semesters, otherwise you will be disenrolled by end of the second semester.**
- The exams are written exams (Klausur).
They will take place in person.
- **For every semester there is one exam date for each mandatory module.**

Focus Areas – Elective Modules (graded)

	Semester	Module			Credits in total
study phase	1.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 20 CP		30
	2.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 10 CP	BEMP Lab Course 6 CP	Genera Education Subjects 4 CP
research phase	3.	Master's Seminar 15 CP		Master's Work Experience 15 CP	30
	4.	Master's Thesis 30 CP			30

Focus Areas – Elective Modules (graded)

The modules are assigned to the following three categories:

- Advanced Fundamentals
- Methods
- Computing

The modules in these categories are in themselves assigned to the two focus areas:

- Imaging and
- Biosensors.

Module			Credits in total
Elective modules from the focus areas			30
in total 20 CP			
Elective modules from the focus areas	BEMP Lab Course	Genera Education Subjects	30
in total 10 CP	6 CP	4 CP	
Master's Work Experience			30
15 CP			
Master's Thesis			30
30 CP			

Focus Areas

- You have to earn at least **30 credit points** in the focus areas.
- The modules are assigned to the following three categories:
 - Advanced Fundamentals (at least 10 CP)**
 - Methods (at least 10 CP)**
 - Computing (at least 5 CP)**
- The modules in these categories are in themselves assigned to the two focus areas of **Imaging** and **Biosensors**. You are **free to choose** from both focus areas regardless of which focus area you choose.
- The catalogs are updated by the Examination Board. You may suggest new modules by March 1 or September 1 for the next following semester.
- You can take more modules than necessary. The best ones count towards your GPA

Focus Areas

- All offered modules are listed on the website: [Link](#)

Elective Modules of the Focus Areas BEMP

Master's students of the interdisciplinary program Biomedical Engineering and Medical Physics can choose their elective modules out of an extensive and dynamic catalog, covering nearly all research topics pursued in our department and affiliated institutions.

You have to complete a total of 30 credit points (CP) from the range of electives in the Master's degree program. A certain breadth of education must be guaranteed. The following rule applies: you need to take modules with at least 10 CP each in the categories Advanced Fundamentals and Methods, as well as modules with at least 5 CP in the category Computing. The module selection is discussed in a consultation with a mentor, who must confirm the mentoring meeting with a [certificate](#).

Information about the catalog of the elective modules

The modules in the focus areas are updated by the examination board before the beginning of each semester.

Note: If you would like to suggest new elective modules, please send an e-mail to studium@nat.tum.de (subject: "new modules BEMP") by March 1 for the following summer semester and by September 1 for the following winter semester. Please include the ID, title and a link to the description of the module in your request. The Examination Board will evaluate the proposals. The accepted proposals will then be published in TUMonline and here at the beginning of each semester.

Elective Modules Advanced Fundamentals BEMP (at least 10 CP)

Suchbegriff

Select an option

Number	Title	Responsible	Cycle	Credits	
ED160004	Tissue Engineering and Regenerative Medicine: Fundamentals and Applications	Mela, Petra	W	5	→
EI71102	Materials in Neuroengineering	Kozielski, Kristen	W	5	→
MW2232	Polymers and Polymer Technology	Mela, Petra	W	5	→
NAT3026	Quantitative X-Ray Imaging - from pictures to material-specific numbers	Herzen, Julia	S+W	5	→

Mentor Counseling

- Make sure you have an idea of which of the modules you are interested in before contacting a mentor. A mentor will help you to review the individual study plan you have considered (selected modules).
- Ask for the counseling within the first weeks
- **The discussed individual curriculum is not definitive, you can change your choice of modules later on.** You also might change your mentor during your studies.
- Choose a mentor, your mentors are listed on following website: [Link](#)
If you like to get deeper into Biosensors, please contact the mentors of the Biosensors modules, not those of the Imaging ones.
- You must submit a Mentor-Counseling-Interview-Form when you register for the research phase

BEMP Lab Course

	Semester	Module			Credits in total
study phase	1.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 20 CP		30
	2.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 10 CP	BEMP Lab Course 6 CP	Genera Education Subjects 4 CP
research phase	3.	Master's Seminar 15 CP		Master's Work Experience 15 CP	30
	4.	Master's Thesis 30 CP			30

BEMP Lab Course (pass/fail)

- advanced experiments dealing with different topics from the research area of Biomedical Engineering and Medical Physics
- research areas of the different institute from the physics department and the Munich Institute of BioEngineering (MIBE), thus facilitating future decisions regarding choices of specialization or topics for Master's theses
- students perform **one experiment**, which can be freely chosen from the offered catalog
- each experiment takes about 60 hours of laboratory work.
In total each Lab Course has 6 Credit Points and so the total workload is 180 hours.
- **On October 09, 10 a.m.** there is a **preliminary meeting for the BEMP Lab Courses**.
Prof. Julia Herzen and Dr. Katja Block will explain the general BEMP Lab Course framework, the professors shortly present the experiments of the winter semester 2024/25.

There is such a meeting every semester! Please, be aware students in higher semesters have first right of access to the places on offer.

General Education Subjects

	Semester	Module			Credits in total
study phase	1.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 20 CP		30
	2.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 10 CP	BEMP Lab Course 6 CP	Genera Education Subjects 4 CP
research phase	3.	Master's Seminar 15 CP		Master's Work Experience 15 CP	30
	4.	Master's Thesis 30 CP			30

General Education Subjects (pass/fail)

- At least 4 credit points
- Elective courses – please see our [website](#)

choose for example from TUM School of Management, the Carl-von-Linde Academy or the Language Center

Mobility Window

	Semester	Module			Credits in total
study phase	1.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 20 CP		30
	2.	Mandatory modules (two out of four) Mobility Window 10 CP	Elective modules from the focus areas in total 10 CP	BEMP Lab Course 6 CP	Genera Education Subjects 4 CP
research phase	3.	Master's Seminar 15 CP	Master's Work Experience 15 CP		30
	4.	Master's Thesis 30 CP			30



Going Abroad



Dr. Maria Eckholt

International students,
going abroad

General courses' issues
and soft skills

@: studium@nat.tum.de

Tel.: +49 (0)89 289 14461

Office: PH 2053

Tue. and Thu. 9:30 – 11:30 am

- Detailed Information about possibilities for a stay abroad (for example ERASMUS, TUMexchange)

<https://academics.nat.tum.de/en/global/out-ph>

TUMexchange application deadline October 31 (10 a.m.)

Erasmus+ SMS and SEMP application deadline usually January 15

- To follow international activities of the TUM NAT:
<https://collab.dvb.bayern/display/TUMnat/Study+Abroad>

Research Phase

	Semester	Module			Credits in total
study phase	1.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 20 CP		30
	2.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 10 CP	BEMP Lab Course 6 CP	Genera Education Subjects 4 CP
research phase	3.	Master's Seminar 15 CP		Master's Work Experience 15 CP	30
	4.	Master's Thesis 30 CP			30

Seminar + Work Experience: pass/fail, Master's Thesis: graded

Research Phase

- Full time => 60 Credit Points in total => 40 hours per week, 12 months
- **One inseparable entity** (only formally divided into parts)
- One year of research in a group of or in a specialist field such as the Chair of Cell Biophysics, Physics of Biomedical Imaging, Applied Biophysics, Physics of Synthetic Biosystems, Radiology, etc.
- Find a supervisor during the first year.
Please, see also the list of possible thesis supervisors on the website
- **Register once you start it!**
You can start your research phase also within the semester, you do not have to wait until the beginning of your third semester. Also, your study phase can be longer than two semesters in total.
- Additional information event every semester.
You will get informed about this meeting via e-mail.

Academic progress check (FPSO)

1. You must pass two of the mandatory modules within the first two semesters
2. You must achieve the following minimum number of credit points in the specified semesters: **Only modules minimum needed for your degree program count! No additional ones.**
 - by the end of the 3rd semester: 30 credit points
 - by the end of the 4th semester: 60 credit points
 - by the end of the 5th semester: 90 credit points
 - by the end of the 6th semester: 120 credit points

There is one exemption, in case you do not have 120 CP by the end of the 6th semester another 7th semester is granted within which you have to finalize your studies!

This exemption does not apply for the earlier semester!

Academic progress check (FPSO)

Semester		Module				Credits in total
study phase	1.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 20 CP			30
	2.	Mandatory modules (two out of four) 10 CP	Elective modules from the focus areas in total 10 CP	BEMP Lab Course 6 CP	Genera Education Subjects 4 CP	30
research phase	3.	Master's Seminar 15 CP	Master's Work Experience 15 CP			30
	4.	Master's Thesis 30 CP				30

W/S	SoE	APC
24S	1	min. two of the mand. modules
24W	2	
25S	3	30
25W	4	60
26S	5	90
26W	6	120
(27S)	(7)	120 (!)

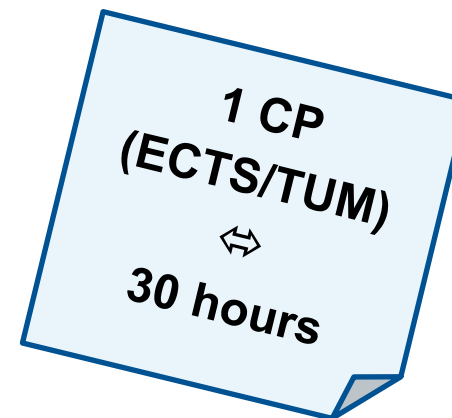
In case you elongate your study phase longer than the third semester and until the end of your fourth semester, you have to finalize all modules from the study phase until the end of your fourth semester and you have to register immediately your research phase at the end of your fourth semester or right in the beginning of your fifth semester.

=> come for consultation with Marianne Köpf as soon as you think you might get in trouble!

If you do not meet the APC, you will be disenrolled.

- Please check regularly your grade report within TUMonline yourself and let us know if there are unassigned exams.

At TUM one credit point values one ECTS credit point.
=> For a 10 CP module the workload is 300 hours!



Registration for lectures and excercises

- Not mandatory, but useful.
- Lecturers can contact students.
- Course will appear in your TUMonline-schedule.
- Access for online material may be coupled to registration.

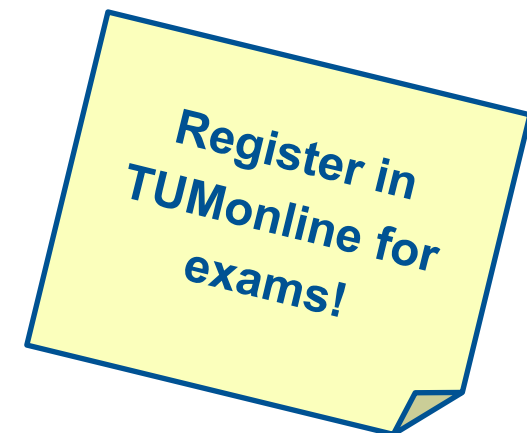
Exams

- Exams are individual to each module.
Have a look into the module description.
 - Non passed modules are not part of the transcript of records.
 - The number of attempts is not part of the final documents.=> Therefore, deregistration is not possible after the deregistration period.
 - Retake exams are done at the following exam period or within the following semester.
- Written exams, often 60 to 90 minutes duration
If you failed an exam, go to the review of the exams. This might help you to improve.
- Oral exams, often 20 to 45 minutes duration
In case you cannot go for the oral exam, please contact the examiner and let her/him know!
- Presentations, Project work, and others
Talk to your examiner so you might get to know, what is expected for these exams.



Registration for exams

- To take an exam **you must register in TUMonline!**
Five weeks after the start of the lecture period, you will receive an information e-mail that you can register for the exams. Registration is required for seminars or other course work as well!
- Best way to register to an exam is via „Curriculum“.
- Only passed exams will be listed in the final transcript.
- There is no limit to the number of attempts for failed exams within the academic progress checks.
- Once passed, exams cannot be repeated.
- [TUMonline Manual Registration Exams](#)



How to... register for courses and exams

Courses

TUM: [TUMonline](#)

Exams

via Study Status/Curriculum in [TUMonline](#) → This is important!

For “Freifächer/Optional Courses“ [TUMonline](#) (only here via „exam“)

[TUMonline Manual Registration Exams](#)

Additional requirement for integrative German skills

- Those who still have to prove their knowledge of German might take a German course at the TUM Language Center, which can also be considered a general education subject. Please register to it as a general education subject, it then will count automatically for the requirement as well.
- Also, other certificates are accepted. If you already have a certificate stating your level of German language knowledge, please send it as a pdf to master@ph.tum.de
- **The A1.1 level is sufficient.**
- **Visa issues? Please, let Marianne Köpf know!**

Additional Courses

- You might take other modules (optional courses) than mentioned in your curriculum or more than needed.
- They do not count into your degree program! – Neither the grades nor the amount of CP
- They will be listed in the appendix of your transcript of records
- Modules you take additional to the minimum of modules you have to do in the elective areas will be handled like additional courses. The less good ones will appear in the appendix. **And so, they do not count for the academic progress check!**

For example:

6+6 CP of Advanced Fundamentals,

5+5+5 CP of Methods

5+6 CP of Computing

Deadlines – I/II

Exam registration periods

- Examinations normally take place accompanying the corresponding semester of study. Each module has **two examination dates within an academic year**.
- Regularly there are two time periods for module exams at TUM. The first follows immediately the lecture period, the second is just before the lecture period of the following semester begins. The exact dates for the current and following semesters are given on the [Website TUM NAT](#).
- The registration periods are defaults – please keep in mind that there might be small deviations and possibly different dates in other departments
- There will be an information e-mail when the registration periods starts for TUM NAT.

Deadlines – II/II

Re-registration

- Do not forget to **re-register for the next semester**

Deadlines: **February 15 for summer semester**
August 15 for winter semester

Key Websites

Wiki:

<https://collab.dvb.bayern/display/TUMnat/Biomedical+Engineering+and+Medical+Physics> ->
„beobachten“

School of Natural Sciences:

<https://www.nat.tum.de/>

<https://academics.nat.tum.de>

TUMonline: <https://campus.tum.de>

Some more information/advices/etc.

[Our Advice and Counselling Network: Studierendenwerk München Oberbayern \(studierendenwerk-muenchen-oberbayern.de\)](http://studierendenwerk-muenchen-oberbayern.de)

<https://www.nat.tum.de/en/nat/about/diversity/>

<https://www.zv.tum.de/en/diversity/home/>

Upcoming Events

Welcome Event

October 10, 10.00-11.30 a.m. - in person on site!

Prof. Julia Herzen will welcome you at TUM, campus Garching.

We will have time for a get-together.

Information on BEMP Lab Courses

October 9, 10 a.m. – online/zoom

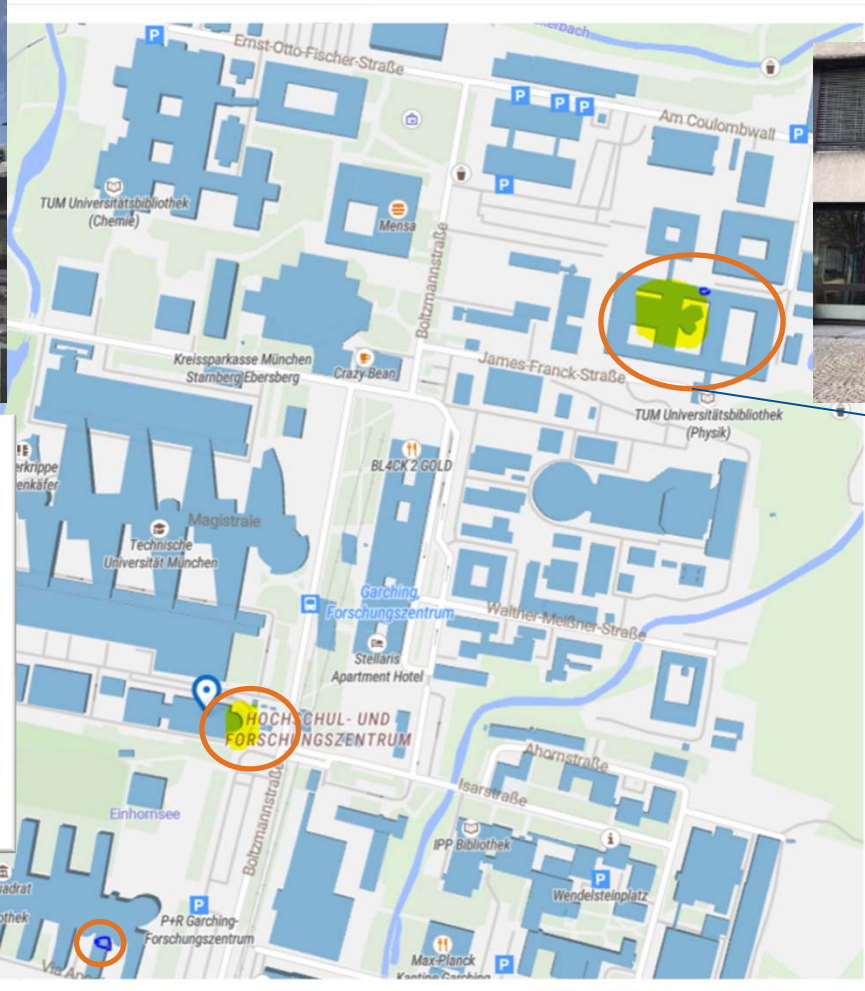
Prof. Julia Herzen and Dr. Katja Block will explain the general BEMP Lab Course framework, shortly present the experiments of the winter semester 2024/25 and answer individual questions.

<https://tum-conf.zoom-x.de/j/61162068302?pwd=T0IUaFZYK0EzSEFGaXhRNkx6UUVUZz09>

Meeting-ID: 611 6206 8302

Kenncode: 945483

Welcome Event and Lecture Halls of the Physics Building



Lecture halls,
Physics building



Welcome Event
October 10,
10.00 a.m.

Questions?

If you have questions or problems...

Let us know!

study@nat.tum.de



Please, include the shortcut „BEMP“ within the subject and within the text your number of enrollment.

Do not write to several e-mail addresses. The people answering them are the same.



Dr. Marianne Köpf
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(Mathematics/Informatics building)

Consultation Hour:

Please schedule an appointment via Moodle

<https://www.moodle.tum.de/course/view.php?id=90475>



Open Day 2024

TUM NAT



Forschungscampus Garching

