

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

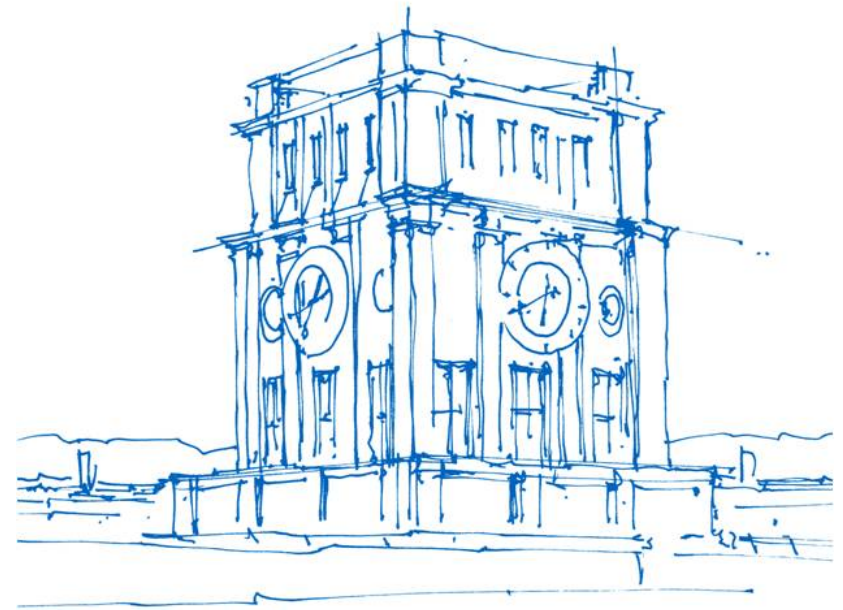
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TUM School of Natural Sciences

Professional Profile Physics

Academic Administration



Uhrenturm der TUM

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Information about the Degree Programme (I/II)

[Link Website TUM NAT](#)

TUM School of Natural Sciences
Technical University of Munich



Homepage > Academics > Master > Biomedical Engineering and Medical Physics

Master's Program Biomedical Engineering and Medical Physics

The courses on the Biomedical Engineering and Medical Physics Master teaches the basics and the skills required to successfully carry out research or industrial projects across the interdisciplinary boundaries between natural sciences, engineering and medicine.

Curriculum

TUM School of Natural Sciences
Technische Universität München
Boltzmannstr. 10
85748 Garching

Departmental Student Academic Advisor
Master Biomedical Engineering and Medical Physics

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](#)

[Link Wiki BEMP](#)

=> „Beobachten“


Information about the Degree Programme (II/II)


[Link Wiki BEMP](#)

=> „Beobachten“


Betreff: [BC] TUM School of Natural Sciences > Quantum Science and Technology

Es gibt 1 neue Bearbeitung zu dieser Seite

 **Quantum Science and Technology**


 **Marianne Köpf** hat diese Seite bearbeitet

Hier ist der Versions-Kommentar

 **Marianne Köpf** hat / haben dies am 9:27 AM geändert

News 2023-10-10

Folgendes hat sich geändert:

 Inhalt

Important Information

Language Courses

Registration for the language courses is done via TUMonline. Students who are not yet enrolled can not yet register for courses in TUMonline. However, they can check the Language Center website regularly, some courses may be offered later in the semester.

Students who did not give proof of German language skills will be given the additional requirement to within the first year of studies pass at least one module in which they earn German language skills integratively. E. g. this may be fulfilled by a German course of the language center within the general-education subjects. But also other certificates are accepted. The A1.1 level is sufficient for meeting the "Requirement Proof of Proficiency in German"/"Nachweis Deutschkenntnisse".

There are different offers for 'German as a Foreign Language'. During the semester as well as block courses in the end of each semester.

Link to the website of the TUM language center:
<https://www.sprachenzentrum.tum.de/en/homepage/>
<https://www.sprachenzentrum.tum.de/en/sprachenzentrum/languages/german-as-a-foreign-language/>

In case you do not get a place within one of the courses offered by the TUM language center, you also might have a look for other course offerings like: <https://www.dkfa.de/de/deutsch-in-studium-allgemeine-informationen/> or <https://kurse.vhb.org/VHBPORTAL/kursprogramm/kursprogramm.jsp?Period=77&School=12&Section=100>

Access to Libraries

For access to TUM library, please have a look at <https://www.ub.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.ub.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 enrolment 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@MCQST,

We invite all women* at MCQST to a "women@MCQST 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) for BEMP

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.

- FPSO BEMP: [Link](#)
- APSO: [Link](#)

At TUM one credit points values one ECTS credit point. This means 1 credit point equals a workload of 30 hours. For a 5 CP module the workload is 150 hours!

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	<p><u>PH2001</u> <u>Biomedical Physics 1 (5 CP)</u></p> <p><u>PH2002</u> <u>Biomedical Physics 2 (5 CP)</u></p> <p><u>NAT3025</u> <u>Biostatistics (5 CP)</u></p> <p><u>MEBB256</u> <u>Introduction to Bioengineering (5 CP)</u></p>
	2.	Mandatory modules (two out of four)	10 CP	
research phase	3.	Master's Seminar	15 CP	15 CP
	4.	Master's Thesis	30 CP	30

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 at TUM in Garching – Germany!
- For every semester there is one exam date for each mandatory module.
- **Register for the exams via TUMonline!**

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 of

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

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-Consulting 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 April 18, 2 p.m.** there is a **preliminary meeting for the BEMP Lab Courses**.
Prof. Julia Herzen and Katja Block will explain the general BEMP Lab Course framework, the professors shortly present the experiments of the summer semester 2024.

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:
<https://academics.nat.tum.de/en/studium/org/faq/studium/softskills-ph>

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

- **To take an exam: register in TUMonline!**
- *Those who still have to prove their knowledge of German can take a German course at the TUM Language Center, which can also be considered a general education subject.*

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) 10 CP Mobility Window	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 January 15, 2024 (at 12 noon)

- 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:
 - 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!

Only modules minimum needed for your degree program count! No additional ones.

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
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.

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.

Additional requirement for integrative German skills

- To be admitted into BEMP you do not need to provide proof of German language skills.
- Students who did not give proof of German language skills will be given the additional requirement to within the first year of studies pass at least one module in which they earn German language skills integratively.
- E. g. this may be fulfilled by a German course of the language center within the general-education subjects. Also other certificates are accepted.
- **The A1.1 level is sufficient.**
- If you already have a certificate stating your A1.1 level at least, please send it as a pdf to master@ph.tum.de

Additional Courses

- You might take other modules (optional courses) than mentioned in your curriculum
- 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 as well!**

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 start.

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/>

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

Some more information/advice/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/>

Tuition Fees for non EU-students

Please, keep yourself updated!

<https://www.tum.de/en/studies/fees/tuition>

Upcoming Events

Welcome Event

April 15, 09.00-10.00 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

April 18, 2 p.m. – online/zoom

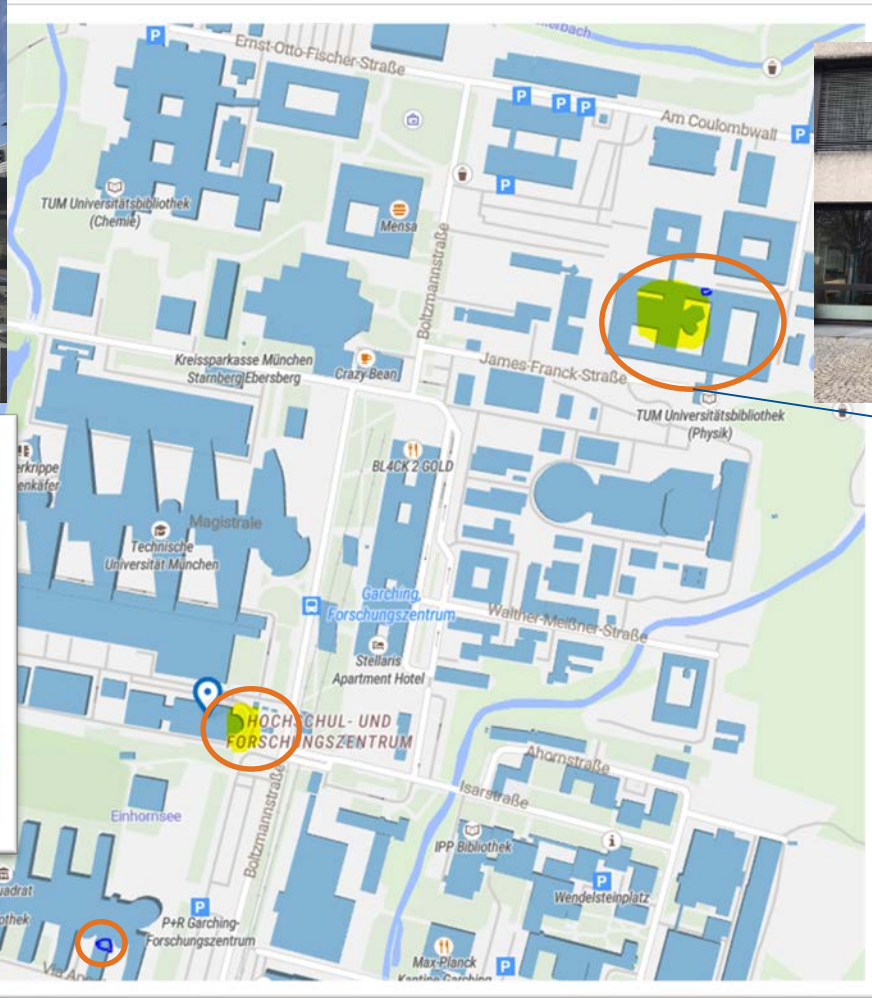
Prof. Julia Herzen and Dr. Katja Block will explain the general BEMP Lab Course framework, shortly present the experiments of the summer semester 2024 and answer individual questions.

<https://tum-conf.zoom-x.de/j/61162068302?pwd=T0IUaFZYK0EzSEFGaXhRNkx6UUUVUZz09>

Meeting-ID: 611 6206 8302

Kenncode: 945483

Welcome Event and Lecture Halls of the Physics Building



Welcome Event
 April 15,
 09.00-10.00 a.m.

Lecture halls,
 Physics building
 e.g. BMP-2 starts
 on April 15,
 10.00-12.00 a.m.
 You might join a
 walk together, to go
 there.

Questions?



If you have questions or problems...



Let us know!

study@nat.tum.de



Please include your matriculation number and name of your degree program!

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Consultation hour Dr. Marianne Köpf

You may make an appointment via Moodle

<https://www.moodle.tum.de/course/view.php?id=90475>  
Mathematics/Informatics Building, Room 5606.01.036