Young Researchers in the Department of Mechanical Engineering



MASCHINENBAUWe engineer future



Your WiMi representatives on the faculty council



Pia-Sophie Becks
WiMi at MPA/IfW



Nicola Jessen
WiMi at PtU



Vinzenz Schuh
WiMi at STFS



TECHNISCHE

The Dean's Office Team

- Petra Wiesner-Schmitt, Doctoral Office
- Giuliana Fetzer, Doctoral Office (Thursdays only)
- Tanja Drobek, Manager
- Claudia Baltes, Dean's Assistant
- Gianina Camino, Student Assistant's Contracts
- Pia Fornoff, Accounting and Administration
- Nicole Schemel, Controlling and Employment Contracts
- Manuela Landgrebe, Controlling and Employment Contracts
- Elena Dröge, Communication and Marketing
- Claus Seibold, IT Administration

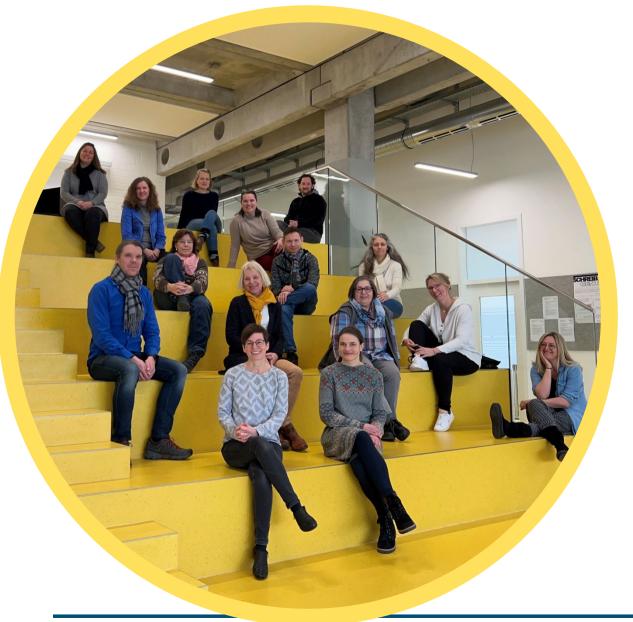






Giuliana Fetzer







MechCenter

Study Office of the Department of Mechanical Engineering

www.maschinenbau.tu-darmstadt.de/mechcenter



Agenda



- Welcome
- WiMis at the Department of Mechanical Engineering
- 3 Info about the PHD/Promotion
- 4 Teaching
- Offers and contact persons



WiMis at the Department of Mechanical Engineering





THE DEPARTMENT FIGURES



Professors

2070 Students

500+ Researchers

150+ Administrative and Technical Staff

Information via Mailing List and Website



- Possibility of direct communication
- Independent log-on and log-off possible



FU Darmstadt > Maschinenbau > Forschung > Wissenschaftliche Mitarbeitende

Sie bilden das Rückgrat der Forschung und Lehre einer Universität: die wissenschaftlichen Mitarbeiter:innen, intern auch WiMi genannt. Mehrere hundert von ihnen arbeiten in Darmstadt unter Leitung der Professor:innen in den Fachgebieten und Forschungsgruppen am Fachbereich Maschinenbau. Die meisten sind Doktorand:innen oder Habilitand:innen. Sie arbeiten in unterschiedlichen befristeten und unbefristeten Angestelltenverhältnissen oder werden durch ein Stipendium gefördert.

KONTAKT

Abonnieren Sie die Mailingliste!

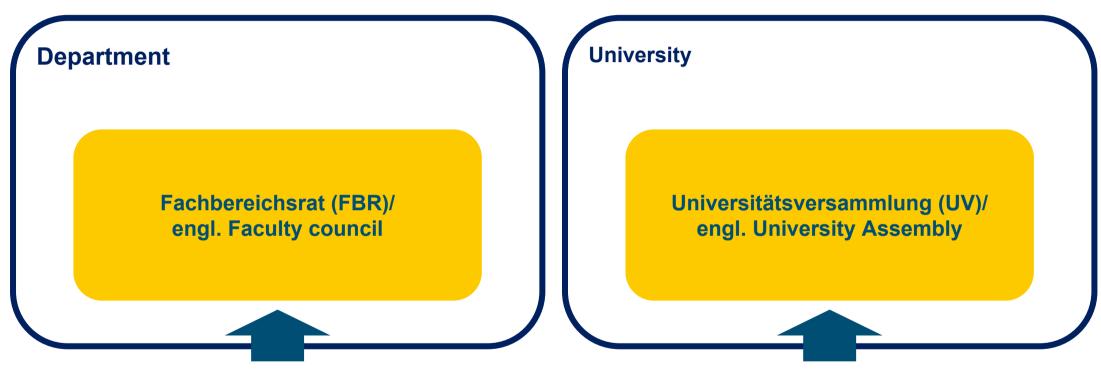
Committees and working groups at the department



There are two areas

Department and University

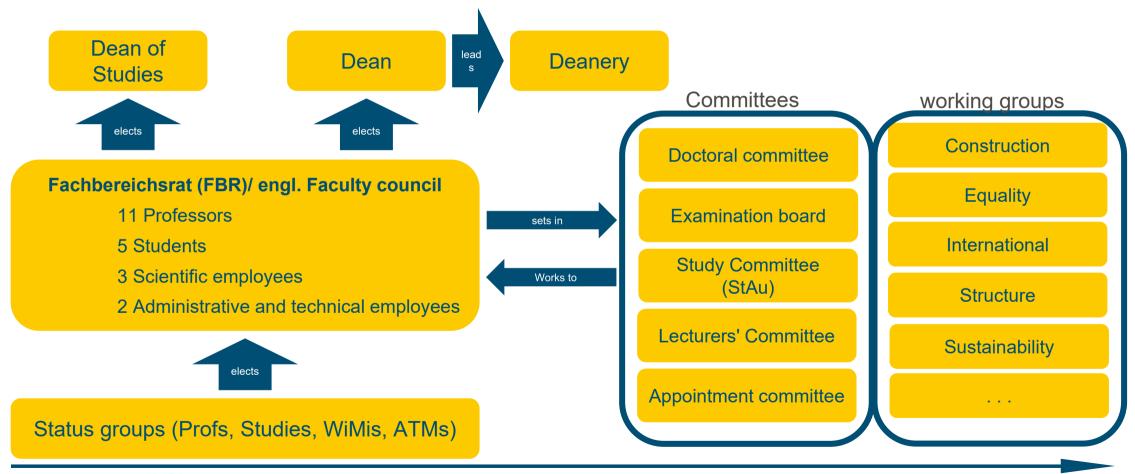




Status groups (Profs, Studies, WiMis, ATMs)

Committees and working groups at the Department of Mechanical Engineering





The faculty council is the central decision-making body in the faculty



Fachbereichsrat (FBR)/ engl. Faculty council



Composition:

- 11 professors
- 5 students
- 3 WiMis
- 2 ATMS



Meets:

• 6x per year (3x per semester)

Tasks:



Elects Dean's Office (Dean, Dean of Studies)/ Appoints members of committees and commissions



Decisions on the budget, fundamental issues, etc.



Makes legally binding decisions on proposals from committees (e.g. study committee, appointment committees, study regulations, etc.)

Doctoral committee decides on all formalities of the doctorate

Doctoral committee





Composition:

- Dean
- at least 3 Profs
- 2 WiMis (PostDoc+ PhD student)
- 1 student (advisory vote)



Meets:

 Meets approx. 8 times a year (usually after the FBR)

Tasks:



Acceptance & rejection of doctoral candidates



Determination of the examination composition for the doctoral examination



Approves the title of the dissertation

Decides on teaching topics

Study Committee





Composition:

- 4 professors
- 4 students
- 4 WiMis



Meets:

 6x per year (usually 2 weeks before the FBR)

Tasks:



Inclusion of new courses in the module handbook



Assessing the evaluation results of courses



Elaboration of the new examination regulations

Participation in the committees



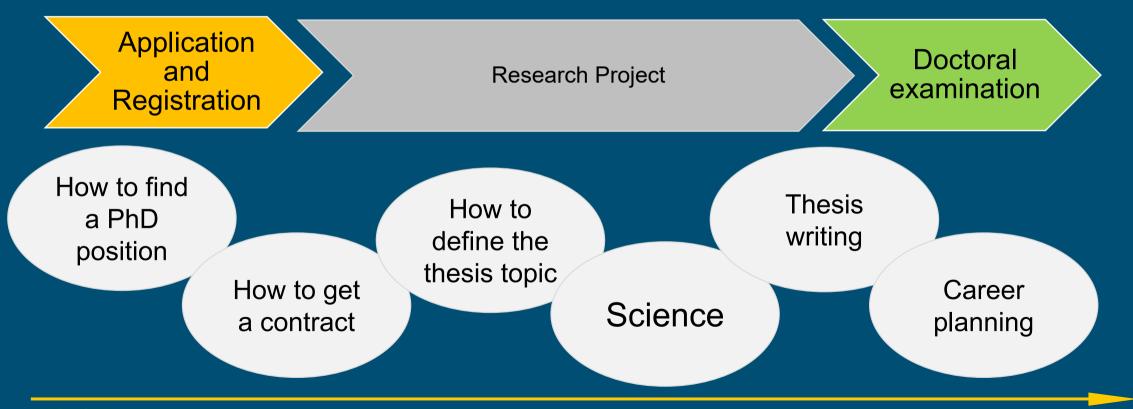
- WiMis are represented in many committees and working groups and can therefore participate in the development
 of the faculty
- Please contact the WiMi representatives on the faculty council if you are interested in participating

Info about the promotion



Doctoral Research at the Department





Regulatory Framework

Doctoral degree regulations

Promotionsordnung

provisions

Specific departmental

Besondere Bestimmungen

Doctoral Board
Promotionsausschuss

- Admission

 Annahme als Doktorand:in
- Doctoral examinations
- Special Cases
- Cumulative dissertations

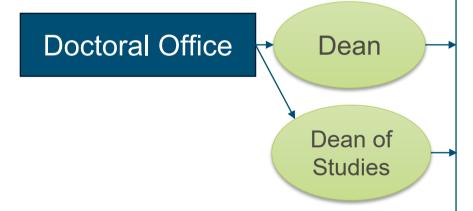
 Kummulative Dissertationen
- Best practice
- ...



Doctoral examination committee

Prüfungskommission

- Chairperson
- Referees
- Additional members



16.05.2024

Application and Registration



First Step

Application as a doctoral candidate in **TUCaN** (Campus Management platform)

Optional

Enrolment as a doctoral student □Student Card, Semester ticket



Online registration/TUCaN



Second Step

Application at the department → Doctoral board's decision

- Acceptance/Admission
- Registration



Departmental website

When is the best time to apply for admission?



- As soon as possible after starting as a researcher
- At least 3 years before doctoral examination

After admission, the acceptance is valid for 5 years and can be prolonged (application for extension)



Everyone should have the opportunity to successfully finish the thesis!

Advantages

- Guaranteed supervision
- The thesis will be assessed
- Correct statistics

Doctoral Mentor

Promotionsbegleiter



- Second contact person in addition to the supervisor
- Available for discussions and consultation and in case of problems and disagreements

The Doctoral Mentor

- should be a member of the TU Darmstadt,
- should be able to act on an equal footing with the first supervisor,
- should not be dependent on the first supervisor or the doctoral candidate,
- should be familiar with the doctoral culture in mechanical engineering,
- does not have to be an expert in the field of the thesis.

Up to the doctoral candidates to initiate the contact!

Cumulative dissertations

Kumulative Dissertationen

Approx. 10% of the dissertations



- Consent of the supervisor and the co-authors
- 3-6 Peer reviewed high quality publications that fit together (3 as first author)
- Introduction 20-30 pages
- Synopsis of min. 30-50 pages, scientific framework

Approx. 6 months before submission the PA has to approve



Initiating the doctoral examination procedure Einleitung des Promotionsverfahrens



Thesis writing

Submission

Doctoral Board's decission

Referee reports

Exam

Publication

Submission

Please contact the Doctoral Office Team. They provide

- Exam date and Examination Board (except special examination dates)
- Hessenboxlink for upload



Doctoral Board's decission

- Doctoral exam committee ok?
- Referees ok?
- Titel ok?



The Doctoral Office will initiate the reports. It also invites the examination board to the exam.

The Doctoral Examination / Dissertation **Defence**



Predefined defence dates Tuesday and Wednesday afternoon

Special dates have to be organized by the candidate

Option: Hybrid exams for the committee members, no "broadcasting"

Examination and defence

- Public presentation 30 min
- Questions by the committee 60 min
- Decission of the committee and notification of the result

Preparation

- Watch a few defences in advance
- Ask your collegues about their experience

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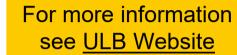
Publication, certificate and doctoral title

Veröffentlichung, Urkunde und Doktortitel



The dissertation has to be published within 12 months after the defence

- Usually electronic version at the ULB
- Exceptions: Printed form by a publishing house (150 copies)
- Prior to publication, the dissertation has to be checked by the first supervisor
- A signed <u>declaration of the transfer of rights</u> must be submitted in paper to the Doctoral Office
- In cases of publication in printed form send a confirmation to the Doctoral Office
- Certificate is handed over in the Doctoral Office
- > After that, the doctoral title can be used



Teaching at Faculty 16



Teaching at Faculty 16



- What's your job?
- 2 <u>Involvement in lectures</u>
- Theses and ADPs
- 4 Helpful Links and MechCenter



What's your job?



What's your job?



Hessian University Law, HHG, §72 (1)1:

- "Academic staff provide academic services in research and teaching, (...).
- Academic services also include imparting specialised knowledge and practical skills to students and instructing them in the application of scientific methods, insofar as this is necessary to ensure the required range of courses.
 (...)
- Within the scope of the existing possibilities, academic staff should be given the opportunity to conduct independent research and to gain qualifications in higher education didactics.(...)"
- "Wissenschaftliche Mitarbeiterinnen und Mitarbeiter erbringen wissenschaftliche Dienstleistungen in Forschung und Lehre, (…).
- Zu den wissenschaftlichen Dienstleistungen gehört auch, Studierenden Fachwissen und praktische Fertigkeiten zu vermitteln und sie in der Anwendung wissenschaftlicher Methoden zu unterweisen, soweit dies zur Gewährleistung des erforderlichen Lehrangebots notwendig ist. (...)
- Im Rahmen der bestehenden Möglichkeiten soll den wissenschaftlichen Mitarbeiterinnen und Mitarbeitern Gelegenheit zu selbstbestimmter Forschung und zu hochschuldidaktischer Qualifizierung gegeben werden. (...)"

What's your job?



Hessian University Law, HHG, §72 (1)11

- "Academic staf Provide academic services in teaching teaching, (...).
- Academic convices also include importing encolalized knowledge and practical skills to students and instructing Imparting specialised knowledge and practical skills to students ary to ensure the required range of courses.
- Within the scope of the existing possibilities, at Instructing students in the application of scientific methods independent research and to gain qualifications in higher education didactics.(...)
- "Wissenschaftliche Mitarbei Opportunity to gain qualifications in higher education didactics hung und Lehre
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- Im Rahmen der bestehenden Möglichkeiten soll den wissenschaftlichen Mitarbeiterinnen und Mitarbeitern Gelegenheit zu selbstbestimmter Forschung und zu hochschuldidaktischer Qualifizierung gegeben werden. (...)"

What's your job? Could be...





Lectures

- Support of Professor
- Support of students
- Updating Slides, Moodle, Homepage,...

Clarify with your Professor



Exams

- Consultation Hours
- Written exams: Design, Exam organisation, correction, exam review
- Oral exams: Preparation, Assessor, protocol



Theses & Projects

- Official Examiner: Professor
- Supervising research assistant: Assessor (Beisitzer)

Involvement in lectures



Your involvement in (new) lectures



- Support students
- Support Professor
- Exam Regulations
- Teaching skills
- Transfer research results

YOU

Professor

- Module responsibility
- Official Examiner

- Changes / new module descriptions
- Timetables
- Lecture Halls
- Exam Dates
- TUCaN

MechCenter

Boards

- StAu
- PB
- FBR



New lectures or changes – First steps



Who can offer (new) lectures?

Professors + Post-Docs with an according teaching appointment

Steps for new (or changing) lectures (not for mandatory modules!)

- Check the module handbooks: does a comparable lecture already exist?
- Talk to your professor
- Prepare a module description based on the departmental template and information
- The module description will be discussed and decided upon in the following committes:
 - Studienausschuss / Study Committee
 - Professor:innenbesprechung / Professors' meeting
 - Fachbereichsrat / Faculty Council
- Room and time slot for the lecture: Get in touch with Hartmut Jawinski

Deadlines:

Mid April for winter term

Mid October for summer term

New lectures – Preparing the course



Detailed preparation of the lecture:

- Considering constraints and possibilities based on the Regular examination Rules (<u>APB</u>) and regulations of the study programme
- Keep in mind the Principles for Academic Study and Teaching of TU Darmstadt (<u>English</u> / <u>German</u>)
- Take into account Blooms taxonomy
- Boost your teaching skills! Use the wide range of offers of the HDA (<u>English</u> / <u>German</u>)
- What does eLearning tools (moodle and more) have to offer? Check their website (<u>English</u> / <u>German</u>)
- Looking for digital platform for crafting impactful learning design solutions? Check this offer of the Goethe University Frankfurt https://fola.digital/



Theses and ADPs



Stumbling blocks - Theses





Theses



Prepare!

- Make sure, the topic is suitable for the type of thesis and required resources are available (test benches, parts for the experiments, software licenses,...)
 - Bachelor "Maschinenbau Sustainable Engineering" + "Bio-Materials Engineering": 360 working hours, 20 weeks
 - Master "Maschinenbau" + "Aerospace Engineering": 900 working hours, 24 weeks
- Thesis is related to one of the <u>specialisations</u> or Aerospace Eng. → State that on the task definition
- Ask a colleague to help you with your first supervision of a thesis
- Keep in my mind the formal framework, given by the examination regulations
 - FAQ for teaching staff (English / German)
 - Additional information can be found here (*German only*)
 - Students find all information about the registration process, formal criteria and the process of handing in the final thesis on these websites: Bachelor / Master

Theses





Promote!

- Promote your topic:
 - use the black board at your institute,
 - the homepage of your institute,
 - the <u>homepage of the Department</u>,
 - the "Maschinenbauer-Forum", …
- Thesis is related to one of the <u>specialisations</u> or Aerospace Engineering
 → State that on the thesis advertisement
- Advertise your topic in German and English

Theses



Perform!

- Clarify with your student details about the further process
 - Deadlines & Responsibilities
 - Specifications of your own institute
 - Regular Meetings and communication
 - Steps to take if any problems occur
 - Presentation of interim results
 - Feedback-Loops and encouraging self reflection process of student
- Make it clear:
 - Which KI-tools are allowed? How to indicate its use in the thesis? (English / German)
 - How to <u>avoid plagiarism</u>! Different backgrounds different understanding.
- Make your feedback constructive, honest and appreciative
- Get in touch with the MechCenter (<u>studienberatung@mechcenter.tu-darmstadt.de</u>) if you (or your student) <u>struggle with the (supervision of a) thesis</u>



Evaluation of the thesis



Form of examination: Thesis: Written thesis and a seminar presentation followed by discussion (40 min).

Colloquium (depending on the degree programme!):

Department of Mechanical Engineering: Two examination events:

- Thesis = Standard Rating; (<u>Attention</u>: Thesis has to be uploaded in TUbama within the thesis deadline!)
- Colloquium
 - pass/fail → no own grade
 - <u>But:</u> Make use of the bonus regulation → For a good colloquium, you can upgrade the overall grade up to 0,4 points. (APB, § 25(2))
- Both partial exams must be passed separately!

Review (Gutachten)

- Two (independent) reviews, usually professor + WiMi
- Tabular or prose
- Independent evaluation must be recognizable (minimum: "I agree with the above evaluation.")

Stumbling blocks - ADP TECHNISCHE UNIVERSITÄT DARMSTADT Supervision **KickOff Duration** Diverse teams Plagiarism Grading

ADP



Prepare!

- Make sure, the topic is suitable for the ADP and required resources are available (test benches, parts for the experiments, software licenses,...)
 - 6 CP = 180 working hours per student
- ADP is related to Aerospace Eng. → State that on the task definition ("This ADP is located in the subject area Aerospace Engineering" or "This ADP is eligible for counting as an Aerospace Engineering ADP")
- Ask a colleague to help you with your first supervision of an ADP
- Keep in my mind the formal framework:
 - Guideline for ADPs by the Department of Mechanical Engineering (English / German)
 - Further ADP information and Templates in the Download Area: (English / German), e.g.: Module descriptions, Assessment Sheets, Guide for multinational group work



ADP





Promote

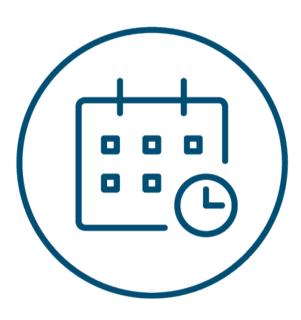
- Promote your topic:
 - use the black board at your institute,
 - the homepage of your institute,
 - the <u>homepage of the Department</u>,
 - the "<u>Maschinenbauer-Forum</u>", …
- ADP is related to Aerospace Engineering → State that on the ADP advertisement
- Advertise your topic in German and English

ADP



Perform

- Consider the aspects for a KickOff Meeting of the ADP guidelines
- Clarify with your ADP group details about the further process
 - Deadlines
 - Responsibilities
 - Specifications of your own institute
 - Regular Meetings and communication
 - Steps to take if any problems occur
 - Presentation of interim results
 - Feedback-Loops
- Make your feedback constructive, honest and appreciative
- Get in touch with the MechCenter (<u>studienberatung@mechcenter.tu-darmstadt.de</u>) if you <u>struggle with the supervision of an ADP</u>



Helpful Links and MechCenter



LINK LIST





General Examination Regulations and information on study programmes

- General Examination Regulations of TU Darmstadt
- FAQ on the General Examination regulations (English / German)
- Information on TUCaN (FAQ / Video-Tutorials)
- Information on the study programmes at the Department of Mechanical Engineering (Bachelor / Master) and in the Download section
- Information on specialisations of the Masters' programme (English / German)
- Guidelines and regulations for teaching staff of the Department of Mechanical Engineering (English / German), e.g.:
 - Guidelines for ADPs
 - Guidelines for theses and examination guidelines
 - Guide for recognition of achievements abroad
 - Communication guide

LINK LIST





Theses

- FAQ for teaching staff (<u>English</u> / <u>German</u>)
- Additional information can be found <u>here</u>, page 3 and 4 (*German only*)
- Guideline for use of Al-Tools by the University of Basel (<u>English</u> / <u>German</u>)
- Avoiding plagiarism (German only) LINK
- Students find all information about the registration process, formal criteria and the process of handing in the final thesis on these websites: <u>Bachelor</u> / <u>Master</u>

ADP

- Guideline for ADPs by the Department of Mechanical Engineering (<u>English</u> / <u>German</u>)
- Further ADP information and Templates in the Download Area: (<u>English</u> / <u>German</u>),

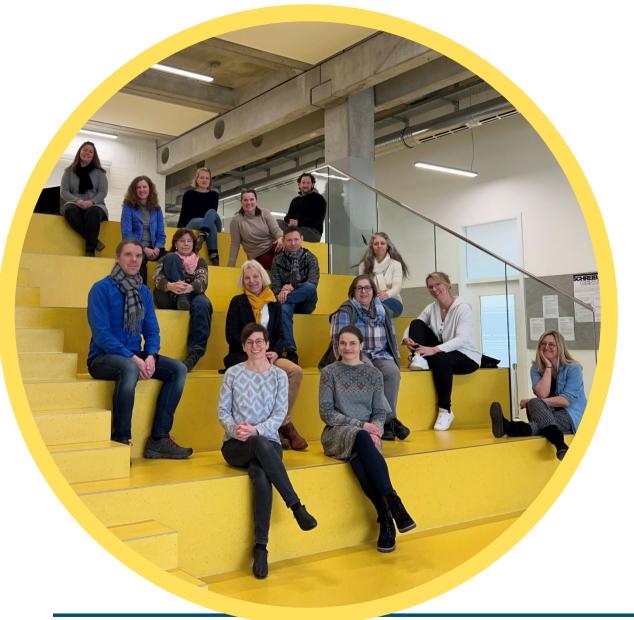
LINK LIST





Boost your teaching skills!

- Offers of the HDA (Center for Educational Development and Technology)
 (English / German)
- Offers of the eLearning Team (<u>English</u> / <u>German</u>)
- Keep in mind the Principles for Academic Study and Teaching of TU Darmstadt (<u>English</u> / <u>German</u>)
- Looking for digital platform for crafting impactful learning design solutions?
 Check this offer of the Goethe University Frankfurt https://fola.digital/





MechCenter

Study Office of the Department of Mechanical Engineering

www.maschinenbau.tu-darmstadt.de/mechcenter



Contact

Technische Universität Darmstadt MechCenter

> Fachbereich Maschinenbau Otto-Berndt-Straße 2 64287 Darmstadt

Prodean

Prof. Dr. habil. Andreas Dreizler

Dean

Prof. Dr.-Ing. Eckhard Kirchner

Dean of Studies

Prof. Dr.-Ing. Bernd Epple



MechCenter

Management MechCenter

Dipl.-Ing. Sonja Rehwald

Secretary

Andrea Zalman

Study and Internshipcoordination

Dr.-Ing. Jennifer Bödecker

EDuStart:

N.N.

Internationalisation and Master's Admission

Dr.-phil. Hardy Frehe Sebastian Keller, M.A.

> Dipl.-Geogr. Gabriele von Laufenberg

> > (Admin.

Unterstützung: Giuliana Fetzer)

Examination and internship **Affairs**

Kerstin Gutierrez (Teamleitung)

Giuliana Fetzer

Ulrike Mostberger

Stephanie Müller

Barbara Schulz

Michaela Wörner

Study and Internship Advisory Service

Jens Hasenbank-Kriegbaum, M.A.

Dr.-Ing. Desislava Veleva

Tanja Pieschel, M.A.

Dr. rer. agr. Elke Plies-Balzer

Dipl.-Geogr. Gabriele von Laufenberg

Course and room management; **Modeling**

Dipl.-Ing. Hartmut Jawinski

Ulrike Mostberger

DLR_School_Lab

Dr.-Ing. Jennifer Bödecker

Dr. rer. nat. Ute Brinkmann

Get in touch - Examination Affairs





Your requests:

- Problems with administering a course or exam in TUCaN
- Questions concerning the registering process for an exam, thesis or ADP
- Coordinating exam dates
- Release of exam results

<u>pruefungsmanagement@mechcenter.tu-</u>darmstadt.de

Kerstin Gutierrez; Giuliana Fetzer; Ulrike Mostberger; Barbara Schulz; Michaela Wörner



Get in touch - Student Advisory Service





Your requests:

Study and Examination Regulations

- How and for what reason can topics be returned?
- What happens if there are absences due to illness?

Supervision of Advanced Design Projects

How do I deal with difficulties with supervision or problems in the student team?

Tanja Pieschel, Elke-Plies Balzer, Desislava Veleva, Jens Hasenbank-Kriegbaum, Gabriele von Laufenberg



Get in touch - Student Advisory Service





Your requests:

Supervision of Bachelor's and Master's theses

- How do I create a good starting point for supervision?
- What can I do if conflicts become apparent?
- How do I recognize early on that the passing of the thesis may be at risk?
- How do I deal with contact and communication difficulties?

studienberatung@mechcenter.tu-darmstadt.de

Tanja Pieschel, Elke-Plies Balzer, Desislava Veleva, Jens Hasenbank-Kriegbaum, Gabriele von Laufenberg

Get in touch – International Affairs





Your requests:

- Questions concerning enquiries about the recognition of foreign exchange courses
- Ideas on new student exchange programs with international partners

internationales@mechcenter.tu-darmstadt.de

Get in touch – Course management





Your requests:

- Getting access to the TUCaN course of a module you are responsible for
- Questions concerning timeslots and lecture rooms for courses

jawinski@mechcenter.tu-darmstadt.de

Get in touch – Study coordination





Your requests:

- Necessary changes to module descriptions
- Planning a new lecture

frehe@mechcenter.tu-darmstadt.de

Offers and contact persons



<u>Ingenium</u>





Young Researchers at TU Darmstadt

- Broad range of workshop offerings
- The workshops are aimed at individual career planning and development in academia, business and society through targeted and tailor-made support
- You can take a maximum of 5 workshops per semester
- Many of the workshops are booked up very quickly, so you should register as soon as the workshops are published.
- If you are unable to attend a workshop, be sure to cancel so that someone from the waiting list can take your place

Center for Educational Development and Technology (HDA)

- TECHNISCHE UNIVERSITÄT DARMSTADT
- HDA

 Hochschuldidaktische
 Arbeitsstelle

- support teachers in building up and developing teaching competence
- offer qualification and continuing education, advice and guidance, networking and exchange, tools and support, assistance with quality development, and specific information sites and materials
- Broad range of workshop offerings
- Many of the workshops are booked up very quickly, so you should register as soon as the workshops are published.
- If you are unable to attend a workshop, be sure to cancel so that someone from the waiting list can take your place

SchreibCenter





- central place of consultation at the TU Darmstadt in all fields of academic or scientific writing
- Offers for doctoral candidates:
 - Writing advice and writing coaching
 - Writing camp in the Odenwald
 - Writing workshop
 - Writing sprint
- Offers workshops and coaching also for students

Support services for scientific tasks





<u>Dezernat Forschung / Directorate VI – Research Services & Technology Transfer offers support in preparing funding proposals</u>

<u>Schreibcenter/ Writing Lab</u> offers support in all fields of academic or scientific writing

<u>ULB / University Library</u> is a competence centre for scientific literature publishing, research data management ...

Highest is an innovation and start-up center

Ombudspersons



Ombudspersons provide support in the event of conflicts and for for counselling



Dr. Tanja Drobek



Prof. Dr. habil. Andreas Dreizler

Councelling and advice



BuB: Counselling services for employees at TU Darmstadt



Staff Council: Represents the employees at TU Darmstadt

Welcome Centre for international researchers at TU Darmstadt

<u>Family Service</u> supports employees and students in organizing their family obligations with their academic and professional careers

See also the Website of the <u>university's confidentiality offices</u>

CYCLING TOGETHER!





From 14 June to 4 July 2024, the City of Science Darmstadt will once again be taking part in the international STADTRADELN (city cycling) campaign organised by the Climate Alliance. The aim is to cycle with enthusiasm, thereby promoting the urban mobility transition and doing something for your own health at the same time. Registration is now open!

TO-DO:

- 1. Sign up for the team in Darmstadt:

 Team TU DARMSTADT | Subteam FB 16 Maschinenbau
- 2. Download the <u>city cycling app</u> or enter kilometres online in the <u>km</u> <u>book</u>
- 3. Cycle along from 14 June!