

## Machine Elements

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**Subject area:** Mechanical Engineering

<b>University:</b>	TUM
<b>Level:</b>	BA all years
<b>Teaching mode:</b>	completely online, not time-specific
<b>Instructor(s):</b>	Prof. Dr.-Ing. Karsten Stahl

### Short description

Introduction and explanation of selected machine elements

### Full description

The lecture covers the properties, design and calculation of selected machine elements. This includes in detail:

- Design and product development
- Practical strength calculation (shafts)
- Welded joints
- Screws and bolted joints
- Sliding/rolling element pairings
- Rolling element bearings
- Shaft-hub-connections
- Transmissions
- Gears
- Lubrication

### Learning outcomes

At the end of the lecture students are able to

- remember the covered contents,
- distinguish between machine elements,
- apply strength calculation methods to machine elements,
- carry out designs with machine elements

### General information

**Contact hours per week:** 2

**Total workload:** 75 hrs (in student hours for the whole course)

<b>ECTS credits:</b>	3
<b>Language:</b>	English
<b>Course start date:</b>	01 May 2023
<b>Course end date:</b>	25 July 2023
<b>Add. info about start date:</b>	
<b>Weekly teaching day/time:</b>	
<b>Time zone:</b>	CET (Denmark, Germany, France, Netherlands, Switzerland, Czech Republic)
<b>Further information:</b>	
<b>Prerequisites:</b>	Engineering Mechanics Materials CAD
<b>Activities and methods:</b>	Lectures
<b>Presence on campus:</b>	final exam on campus at host university

## Final examination

<b>Form:</b>	written or oral
<b>Date:</b>	
<b>Location/format:</b>	on campus of host institution
<b>Re-sit possibility:</b>	no
<b>Transcript available:</b>	TUM will issue an official certificate indicating the number of ECTS, grade and workload instead of a transcript of records.
<b>Add. info/requirements:</b>	final exam on campus at host university at the end of July 2023

## Registration

To register for this course, follow the registration requirements of your **home university** as specified here: [www.euroteq.eu/courses-registration](http://www.euroteq.eu/courses-registration).

## Administration

<b>Number of places:</b>	50
<b>Minimum participants:</b>	

**Internal course code:** LV-Nr 0000003158

**Contact:** euroteq.mobility@xzv.tum.de

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*This course is part of the EuroTeQ Engineering University joint course catalogue 2023. This is a collaborative activity of the partner universities DTU, L'X, TU/e, TalTech, CTU, TUM as well as Technion. Students from these universities can participate in the offered courses. It is the responsibility of the student to check if you fulfil the requirements to participate in a specific course. Students are also advised to check with their home institution how to get recognition of the ECTS credits gained in courses of the EuroTeQ course catalogue. For further information about EuroTeQ Engineering University, visit [www.euroteq.eu](http://www.euroteq.eu) or get in touch with the above-mentioned point of contact.*