

## Technical Aspects of Sustainable Production

---

**Subject area:** Mechanical Engineering

**University:** TUM  
**Level:** BA all years, MA all years  
**Teaching mode:** completely online, at specific time  
**Instructor(s):** Dr.-Ing. Susanne Vernim

### Short description

Following our first micro-credential “Introduction to Sustainable Production – A Sense of Urgency”, we want to offer students the opportunity to further engage in the topic and deepen their knowledge in the technical aspects of sustainable production. The course leading to the micro-credential includes four modules. The format will be with a live lecturer but online and synchronous. Modules can be held either once a week or in one block.

### Full description

### Learning outcomes

The overall intended learning outcome is to gain a holistic understanding of sustainability in production. Product design for sustainable processes: At the end of the course, the learner will be able to understand how manufacturing sustainability is determined already in the design of the product. Production technology measures: At the end of the course, the learner will be able to discuss possibilities to improve production-related sustainability by technological measures. Resource efficiency in manufacturing: At the end of the course, the learner will be able to assess, measure and manage energy and resource efficiency in manufacturing. Renewable energies and energy flexibility in production: At the end of the course, the learner will be able to understand the impact of renewables in production systems and discussing their potentials.

### General information

**Contact hours per week:** 0.5  
**Total workload:** 12.5 (in student hours for the whole course)  
**ECTS credits:** 0.5  
**Language:** English

**Course start date:** 01 October 2022

**Course end date:** 31 March 2023

**Add. info about start date:**

**Weekly teaching day/time:**

**Time zone:** CET (Denmark, Germany, France, Netherlands, Switzerland, Czech Republic)

**Further information:**

**Prerequisites:** (Industrial) engineering students with common knowledge in manufacturing

**Activities and methods:** Lectures, Group work, Practices

**Presence on campus:**

## Final examination

**Form:** no examination

**Date:**

**Location/format:**

**Re-sit possibility:**

**Transcript available:**

**Add. info/requirements:**

## 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

**Number of places:**

**Minimum participants:**

**Internal course code:**

**Contact:** [euroteq.incoming.zv@tum.de](mailto:euroteq.incoming.zv@tum.de)

*This course is part of the EuroTeQ Engineering University joint course catalogue 2022/2023. 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.*