



Faculty of Health, Science and Technology  
Materials Engineering

# Syllabus

## Manufacturing Technology 2

<b>Course Code:</b>	MTAD21
<b>Course Title:</b>	Manufacturing Technology 2 <i>Tillverkningsteknik 2</i>
<b>Credits:</b>	7.5
<b>Degree Level:</b>	Master's level
<b>Progressive Specialisation:</b>	Second cycle, has only first-cycle course/s as entry requirements (A1N)

**Major Field of Study:**  
MTA (Mechanical Engineering)

### Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2020-03-11, and is valid from the Autumn semester 2020 at Karlstad University.

### Prerequisites

30 ECTS credits completed in Mechanical Engineering, including materials engineering, engineering design, and manufacturing technology, plus upper secondary level Swedish 3 or Swedish as a second language 3, and English 6, or equivalent

### Learning Outcomes

The aim of the course is for students to acquire in-depth knowledge and skills in manufacturing technology and industrial product development processes.

Upon completion of the course, students should be able to:

- give an account of production planning and the different levels involved,
- model and analyse a basic production unit,

- develop and justify a suitable production solution based on analysis of a production scenario,
- give an account of the manufacturing process and develop a general plan for the processing and assembly of simple products,
- give an account of methods and tools used for production development, and
- give an account of selected issues in current research on manufacturing technology.

### **Content**

The course includes the following:

Lectures on industrial manufacturing, including for instance planning, handling materials, and workshop automatisisation/digitalisation, as well as a selection of current research issues related to manufacturing technology.

Mandatory exercises focused on the modelling and analysis of manufacturing units.

A mandatory hand-in assignment.

### **Reading List**

See separate document.

### **Examination**

Assessment is based on a written exam and mandatory course components comprised by exercises and a hand-in assignment.

If students have a decision from Karlstad University entitling them to special pedagogical support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

### **Grades**

One of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), U (Fail) is awarded in the examination of the course.

### **Quality Assurance**

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

### **Course Certificate**

A course certificate will be provided upon request.

### **Additional information**

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.