



Faculty of Health, Science and Technology  
Materials Engineering

# Syllabus

## Manufacturing Technology 1

<b>Course Code:</b>	MTGB18
<b>Course Title:</b>	Manufacturing Technology 1 <i>Tillverkningsteknik 1</i>
<b>Credits:</b>	7.5
<b>Degree Level:</b>	Undergraduate level
<b>Progressive Specialisation:</b>	First cycle, has less than 60 credits in first-cycle course/s as entry requirements (G1F)

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

### Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2018-09-12, and is valid from the Spring semester 2019 at Karlstad University.

### Prerequisites

Mechanical Engineering 15 ECTS credits, including Materials Engineering, or admitted to one of the BSc programmes in Mechanical Engineering or Innovation and Design Engineering, or equivalent

### Learning Outcomes

The aim of the course is that students develop knowledge and skills in manufacturing and engineering technology.

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

- give an account of manufacturing processes and systems in industry and variations of methods concerning metal forming processes, material removal processes, casting and joining,
- develop and give arguments for a suitable manufacturing process for a component and adjust its design based on an analysis of geometry, materials and manufacturing volume,
- give an account of basic metrology methods and the importance of tolerances in manufacturing,
- give an account of common types of manufacturing equipment and workshop layout,
- propose and give arguments for a suitable workshop layout based on an analysis of a production situation.

### Content

Lectures on manufacturing methods and systems including engineering measurement methods and manufacturing equipment.

Mandatory safety instruction in the workshop as a requirement for participation in laboratory sessions/exercises.

Mandatory laboratory sessions/exercises regarding industrial manufacturing processes,  
Mandatory study visit.

Mandatory hand-in assignment.

**Reading List**

See separate document.

**Examination**

Assessment is based on a written exam and mandatory components in the form of laboratory sessions/exercises, hand-in assignment, study visit and safety instructions.

**Grades**

One of the grades Pass with Distinction (5), Pass with Some Distinction (4), Pass (3) or Fail (U) 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.