



Course syllabus

Faculty of Technology

Department of Mechanical Engineering

4MT090 Tillverkningsprocesser för ledare, 3,5 högskolepoäng
Manufacturing processes for managers, 3.5 credits

Main field of study

Mechanical Engineering

Subject

Mechanical Engineering

Level

Second cycle

Progression

A1N

Date of Ratification

Approved 2024-12-02.

The course syllabus is valid from autumn semester 2025.

Prerequisites

90 credits, including degree project of 15 credits, or equivalent.

Objectives

By the end of this course, participants will be equipped to:

- Understand key manufacturing concepts, including both traditional and modern manufacturing techniques.
- Describe and apply the principles and practices of quality management in manufacturing.
- Appraise lean manufacturing principles and how to apply them to improve efficiency.
- Understand the importance of sustainability in manufacturing and how to implement sustainable practices.

Content

The course consists of five parts:

1. Introduction to Manufacturing
2. Manufacturing Processes
3. Quality Management
4. Lean Manufacturing and Continuous Improvement
5. Sustainability in Manufacturing

Type of Instruction

The course consists of lectures, exercises and seminars, which will be offered either online or onsite. See the schedule for more information.

Examination

The course is assessed with the grades U, 3, 4 or 5.

The student's performance is assessed through mandatory seminars where the project is presented orally and discussed. All seminars must be attended in order to be approved for the course. Individual work (3.5 credits).

Project: Case study on analyzing and optimizing the manufacturing route of a product in your company.

Resit examination is offered in accordance with Linnaeus University's Local regulations for courses and examination at the first- and second-cycle levels. In the event that a student with a disability is entitled to special study support, the examiner will decide on adapted or alternative examination arrangements.

Course Evaluation

A course evaluation should be conducted during the course or in connection with its conclusion. The results and analysis of the completed course evaluation should be promptly communicated to students who have completed the course. Students participating in the next course instance should be informed of the results of the previous course evaluation and any improvements that have been made, no later than at the start of the course.

Required Reading and Additional Study Material

- Groover Mikell P., Introduction to Manufacturing Processes. First Edition, 2011, 720 pp, ISBN 9780470632284.
- Sarape Kalpakjian and Stephen R. Schmid, Manufacturing Engineering and Technology, 7th edition in SI Units, Global Edition, 2013, 1214 pp, ISBN 978-9810681449.
- Liker, Jeffrey K., Toyota Way: 14 Management Principles from the World's Greatest Manufacturer. 2nd ed. New York: McGraw Hill, 2021, 352 pp, ISBN 9781260468519.
- Glenn Johansson, Erik Sundin, and Magnus Wiktorsson, Sustainable manufacturing: why and how to improve environmental performance, Edition 1, Lund: Studentlitteratur, 2019, 184 pp, ISBN 9789144120546.