UNIVERSITY OF SKÖVDE

TRANSLATION FROM SWEDISH

COURSE SYLLABUS

CAM: Introduction to Computer-Aided Manufacturing G1N

7.5 credits

Course code: MT131G
Version number: 7
Valid from: 1 July 2022
Ratified by: Curriculum Committee for Engineering Science
Date of ratification: 12 April 2021

1. General information about the course

The course is provided by the University of Skövde and is named CAM: Introduction to Computer-Aided Manufacturing G1N (CAM: Introduktion till datorstödd tillverkning G1N). It comprises 7.5 credits and is a first-cycle course. The level of progression is G1N.

The course is a part of the main field of study in Mechanical Engineering. It can also be a part of the main field of study in Industrial Engineering. The disciplinary domain of the course is Technology.

2. Entry requirements

General entry requirements.
Additional requirements: Physics 2, Chemistry 1, Mathematics 3c or Mathematics D (or the equivalent).

3. Course content

The course will provide lectures to introduce the basic knowledge of metal cutting process, NC technology and its applications in manufacturing devices (e.g. NC machine tools), the basic knowledge of NC programs based on ISO 6983 standard, the methodology of process planning, and their implementations in computer-aided manufacturing environment.

The tutorials will be provided to practice process planning and NC programming with a Computer Aided Manufacturing (CAM) program for a given part which is expressed by 3D model with PMI. Results and findings will be reported and reflected upon in a technical report following a given template which is an analogous file for shop floor communication purpose.

4. Objectives

After completed course the student should be able to:

- describe the basics of metal cutting process,
- describe the working principles of numerical control (NC) machine tools,
- program NC codes based on the ISO 6983 standard,
- analyze part 3D models with Product and Manufacturing Information (PMI) and interpret its implication for machining by applying the knowledge of process planning,
- create a process plan for a given part using a CAM program,
- document the process planning results as shop floor communication files.

5. Examination

The course is graded A (Excellent), B (Very good), C (Good), D (Satisfactory), E (Sufficient) or F (Fail).

The examinations of the course consist of the following modes of assessment:

- **Practical assignment**
  3 credits, grades: G/U
- **Technical report**
  4.5 credits, grades: A/B/C/D/E/F (determines the final grade)

Students with a permanent disability who have been approved for directed educational support may be offered adapted modes of assessment.

6. Types of instruction and language of instruction

The teaching is comprised of supervision, supervision, lectures and lectures.

The teaching is conducted in English.

7. Course literature and other educational materials

Lee, K. (1999). *Principles of CAD/CAM/CAE* (1st ed.). Pearson. ISBN 9780201380361.

8. Student influence

Student influence in the course is ensured by means of course evaluation. The students are informed about the results of the evaluation and potential measures that have been taken or are planned, based on the course evaluation.

9. Additional information

Further information about the course, as well as national and local governing documents for higher education, is available on the website of the University of Skövde.