1 Name, Scope and Level of the Course

The course is provided by the University of Skövde and is named Product Lifecycle Management A1N. It comprises 6 credits and is on advanced level. The level of progression of the course is A1N.

2 Objectives

After completed course the student should be able to:

- summarize and explain the product lifecycle and the need for data and information which guides the product through its lifecycle related to the business of a manufacturing company including knowledge and experiences,
- explain the overall architecture and functionality in a product lifecycle management (PLM) system related to the product and its manufacturing systems need for information including structuring the information,
- identify and relate different stakeholders who consumes and/or generates product data and manages it using the PLM-system and also give examples of various computer aided engineering tools used based on the PLM-system,
- explain principles and technologies for information integration inside the PLM-system and between the PLM-system and other IT-systems, e.g. ERP-systems, and
- define and in a PLM-system implement an integrated information flow for a product through the product lifecycle.

3 Course Content

This course aim at provide the students with knowledge about how a Product Lifecycle Management system (PLM) is used to structure and manage the information which guides the product through its lifecycle.

Initially are the business needs and motives for using PLM in a manufacturing industry described. The work process for developing or modifying a product or a manufacturing system is described including examples of typical information which is either required or generated for each step in the process.

The course identifies different stakeholders which both generates and consumes information related to the product and its manufacturing system over the lifecycle.

Design and functionality for a PLM-system is described including interfaces towards other IT-systems within a company. By exercises and teamwork is a commercially available PLM-system analyzed and its functionality investigated.

The course presents an overview of different computer aided engineering tools used over the product- and manufacturing system lifecycle.

Challenges and benefits for introduction of PLM in an organization is described in brief.

A teamwork is a major part of the course where a PLM-system is used to structure and manage the information which guides a product through its lifecycle.
including its related manufacturing system. The work will be documented in a written report which also includes a literature review.

4 **Forms of Teaching**
The teaching comprises lectures, group assignments, presentations and exercises.

The teaching is conducted in English.

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

<table>
<thead>
<tr>
<th>Name of examination</th>
<th>Credits</th>
<th>Grading</th>
</tr>
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<tbody>
<tr>
<td>Supervised written examination¹</td>
<td>3 credits</td>
<td>A/B/C/D/E/F</td>
</tr>
<tr>
<td>Written assignment</td>
<td>3 credits</td>
<td>G/U</td>
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¹ Determines the final grade of the course.

Students with a permanent disability who have been approved for special educational support may be offered adapted or alternative examinations.

6 **Admission Requirements**
The prerequisite for this course are a Bachelor degree of at least 180 higher education credits (equivalent to 180 ECTS) within the fields of integrated product development or production engineering or automation engineering or mechanical engineering or information technology or similar.

A further requirement is proof of skills in English equivalent of studies at upper secondary level in Sweden, known as English course 6 / English course B. This is normally demonstrated by means of an internationally recognized test, e.g. IELTS or TOEFL or the equivalent.

7 **Subject, Main Field of Study and Disciplinary Domain**
The course forms a part of the academic subject area of Virtual Product Realization. The course is a part of the main field of study in Virtual Product Realization at the University of Skövde. The disciplinary domain of the course is Technology.

Every course at the University of Skövde belongs to a subject. The division of subjects is used for follow-up and quality assurance. A main field of study is an area in which a degree can be awarded. Disciplinary domain is a division which is used by the government for the allocation of resources for studies at basic level and advanced level.

8 **Approval of Course and Course Syllabus**
The course was approved by the Curriculum Committee for Engineering Science on 8 January 2018. This course syllabus was approved by the Curriculum Committee for Engineering Science on 17 October 2018. It is valid from 1 July 2019 and replaces the course syllabus approved 8 January 2018.

9 **Overlapping with Another Course**
This course cannot constitute a part of a degree also containing a course the content of which is totally or partly equivalent to the content of this course.

10 **Additional Information**
Further information will be available on the university’s website before a course is given.

National and local regulations for higher education are available on the university’s website.

Upon completion of the course there will be a follow-up. The main purpose of this follow-up is to contribute to improvements of the course. The students’ experiences and views constitute one of the criteria for the follow-up and are gathered by means of course evaluations. The students will be informed of the results of the follow-up and any decisions regarding actions that are to be taken.

11 **Course Literature and Other Educational Materials**

**Main literature**

Selected research papers

Technical documentation Siemens Teamcenter

**Reference literature**