UNIVERSITY
OF SKÖVDE

COURSE SYLLABUS Preliminary, not approved

Integrerad virtuell driftsättning A1N
Integrated Virtual Commissioning A1N
4 credits

Course Code: VP736A

The Course Syllabus is valid from: 1 July 2020

Date of Approval: Not approved

Version Number: 1

Subject: Virtual Product Realization

Main Field of Study: Virtual Product Realization

Disciplinary Domain: Technology

Academic Level: Advanced level

1   Name, Scope and Level of the Course

The course is provided by the University of Skövde and is named Integrated Virtual Commissioning A1N. It comprises 4 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:

- describe and discuss research articles concerning the state-of-the-art in the area of Virtual Commissioning,

- justify the use of virtual commissioning for design and development of manufacturing automation,

- demonstrate an understanding of suitable application areas of Virtual Commissioning,

- demonstrate the ability to use Virtual Commissioning tools to support different engineering activities: design, development, construction, commissioning, operation and maintenance.

3   Course Content

The term "Integrated Virtual Commissioning" refers to the integrated use of the virtual models along the automation engineering process, instead of seeing Virtual Commissioning as an additional effort. The model grows continuously, it is used for different purposes, supports several engineering activities and the effort to build it is distributed. The aim of it is to make more effective use of time and resources through the project.

During this course, the state of the art around Virtual Commissioning will be studied together with several real case studies. The students will later be able to practice with Virtual Commissioning models and use them for different engineering activities to analyze their benefits. The course targets PLC and robot programmers and professionals from SMEs or big organizations interested in understanding how Integrated Virtual Commissioning can support their processes, with its limitations and drawbacks. Basic automation engineering knowledge and programming skills are expected from the students.

4   Forms of Teaching

The teaching comprises lectures, exercises, discussions and laboratory sessions. Laboratory exercises are mandatory. A short presentation of the results obtained on the exercises is presented in the end of the course.

The teaching is conducted in English.

5   Examination

The course is graded G (Pass) or U (Fail).

Registration of examination results:

Name of examination	Credits	Grading
Laboratory assignments and presentation[1]	4 credits	G/U

[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 prerequisites for this course are a Bachelor degree of at least 180 higher education credits (equivalent to 180 ECTS) within the fields of automation engineering, mechatronics engineering, electronic engineering or similar, and a minimum of 12 months of documented work experience in relevant domain.

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.

If you do not fulfill the academic prerequisites, you can apply to be assessed based on work experience.

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 9 March 2020. This course syllabus has been ready for proofreading by the Curriculum Committee for Engineering Science on 9 March 2020. It is valid from 1 July 2020.

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

Course literature will be provided by the instructor during the course.