

SYLLABUS

Safety II 7.5 credits A7001N

Robusta system II

Course syllabus admitted: Autumn 2011 Sp 2 - Spring 2012 Sp 4

**DECISION DATE
2011-10-07**

Safety II 7.5 credits A7001N

Robusta system II

Second cycle, A7001N

Education level
Second cycle

Grade scale
U G VG

Subject
Informationsteknik

Subject group (SCB)
Computer Technology

Entry requirements

Minimum 120 ECTS of university studies including 60 ECTS in the areas of computer or systems science, business administration or equivalent. Students from non-English speaking countries are required proof of knowledge in English provided by TOEFL test (score 550/213 or higher), IELTS test (score 6.0 or higher) or equivalent test. Students from EU countries are required to have obtained a pass in an English language course in their upper secondary school leaving certificate.

Selection

The selection is based on 30-285 credits

Examiner

Ann Hägerfors

Course Aim

After the course the student will be able to:

1. Reflect on different analysis, problem structuring models and modeling and simulation work in complex systems environments.
2. Describe and reflect on the principles of mathematical, logical and interpretive methods in management science that can be applied in complex systems environments.
3. Reflect on and analyze the behavior and underlying mental models of how staff are acting in different situations and which affect critical activities
4. Analyze and evaluate investigations and analysis of incidents and explanation mechanisms in a business critical activities.

Contents

During the course different concepts and principles in the area of problem structuring, modeling and decision are discussed and applied, for example visual interactive modeling and a model for analyzing incidents and accidents in complex systems where an application is used. Other issues are methods to discover, track and investigate intrusion or other illegal influence on a system or business and calculation of security return of investment. Some standards and demands on quality concerning both processes and products are also discussed.

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

During the course the student works with individual tasks and group work. The tasks are solved by using the course literature or papers. The student uses different methods and techniques and it is important to choose the right method, technique or computer support for each task. Before and after the tasks are solved there are lectures to present and discuss different solutions.

Teaching is in English and on Internet for distance students or at campus for the students living here. IT support: Learning management system (Fronter), e-mail and phone.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.

1-3: Thematic tasks and reflections orally and written with Company tasks 3,5 hp

1-4: Written exam 4 hp

The course will also be graded using the ECTS grading system.

Students who have failed an examination on five occasions will not be allowed further resits.

Remarks

Technical requirements: Access to PC with Windows XP, microphone, web cam and permission to install software. Internet connection, minimum 0,5 Mbps. Students must register to the courses themselves or contact the IES educational administration not later than 5 days after the quarter commences. Failure to do so can result in the place being lost. This also applies to the students with a place guarantee.

Literature. Valid from Autumn 2011 Sp 1

Tools for Thinking, Michael Pidd (2003), Wiley, ISBN 0-470-84795-6 samt delar av System Safety Engineering: Back to The Future, Nancy G. Leveson (2002), Aeronautics and Astronautics Massachusetts Institute of technology (<http://sunnyday.mit.edu/book2.pdf>, 2006-12-19)

Referece literature

Safeware, System Safety And Computer; Nancy G. Leveson, Addison-Wesley, ISBN: 0-201-11972-2

Systems Modelling: Theory and Practice, Michael Pidd (2004), Addison-Wesley, ISBN: 978-0-470-86731-0

Course offered by

Department of Computer Science, Electrical and Space Engineering

Items/credits

| Number | Type | Credits | Grade |
|--------|---------------------|---------|--------|
| 0001 | Written examination | 4 | U G VG |
| 0002 | Assignment reports | 3.5 | U G# |

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Bertil Carlsson 2011-10-07

Syllabus established

by Institutionen för industriell ekonomi och samhällsvetenskap 2007-02-28