

SYLLABUS

Internet Security 7.5 credits A7011N

Internetsäkerhet

Course syllabus admitted: Autumn 2023 Sp 1 - Present

**DECISION DATE
2023-02-15**

Internet Security 7.5 credits A7011N

Internetsäkerhet

Second cycle, A7011N

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	U G VG *	Informationsteknik	Computer Technology

Main field of study

Information Security

Entry requirements

The course assumes basic knowledge of Computer Science or Systems Science, 60 credits: D0006N Object oriented Analysis and Design, D0019N Software Development with Java, D0024E Software Development with Java II or similar courses in programming of at least 15 credits.

The course is given in English, so good English skills are also a prerequisite.

Selection

The selection is based on 30-285 credits

Course Aim

The aim of the course is to develop knowledge and an approach that contributes to understanding and applying the basic principles of Internet and network security. After the course, the student will be able to:

1. Explain and summarize the fundamental concepts, standards, importance, function and scope of Internet security.
2. Gain in-depth knowledge on the recent trends in the Internet security area.
3. Configure and evaluate basic network elements such as routers, switches, and firewalls towards achieving secure network topologies.
4. Evaluate and enforce security mechanisms to build a secure Internet within organizations.
5. Analyse Internet security vulnerabilities and their impacts on information security in organizations.

Contents

The course covers a number of key concepts within Internet and network security, and additionally the relationships in between these concepts in order to create a full picture regarding what is required to achieve an adequate level of Internet security in organizations. The material covered in the course includes various concepts and standards for evaluating, designing and implementing basic network elements such as routers, switches, and firewall that address relevant security aspects and vulnerabilities.

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, students will work on individual tasks and group tasks. For group work, students will collaborate with each other using a variety of collaboration tools. Course material will cover the fundamental concepts, standards, importance, function and scope Internet security. Students will need to apply a security methodology, when designing a solution to a given security scenario. To comprehensively understand Internet security concepts, students will need to perform some research to find up-to-date materials, write short essays, and pursue laboratory exercises. In this way, the student will identify further individual need to acquire more knowledge on the topics covered by the course. The student's ability to cooperate with other students can also be practiced during the course.

Lectures will cover current and future Internet security concepts, analysis and design, security models, research techniques, and how to integrate architecture into an organisation's security policy.

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

Canvas Learning Management System is used for delivering course material, information and submissions. Knowledge is shared and created within the course through virtual meetings with teachers and other students for discussions, supervision, teamwork and seminars. For student on campus there will be meetings on campus.

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.

The course is examined as follows:

- Written individual tasks and group tasks relating to the course aims 1-5, 4hp (U, G, VG)
- Individual written exam relating to 1, 2, 3 and 5 of the course aims, 3.5hp (U, G, VG)

In order for a student to get VG in the whole course, a VG grade must be accomplished in the individual tasks and group tasks and in the individual written exam.

For the G grade, a student should achieve the grade G in the individual tasks and group tasks, as well as in the individual written exam.

All included examination parts must be completed for the final grade on the course.

Grades are given according to the scale: U, G, VG.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Remarks

Technical requirements: Access to PC, microphone, webcam, a permission to install software, and Internet connection of minimum 0,5 Mbps.

Overlap

The course A7011N is equal to A0001N

Course offered by

Department of Computer Science, Electrical and Space Engineering

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0004	Individual tasks and group tasks	U G VG *	6	Mandatory	A18	
0007	Written exam	U G VG *	1.5	Mandatory	A21	

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 Robert Brännström 2023-02-15

Syllabus established

by Institutionen för industriell ekonomi och samhällsvetenskap 2010-02-19