



# ID1012 Internet Application Protocols and Standards 7.5 credits

Internet applikationsprotokoll och standarder

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

## Establishment

Course syllabus for ID1012 valid from Autumn 2008

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

Basic knowledge about computers and programming languages.

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

To become acquainted with major application layer protocols on the Internet, and how they are designed and specified.

After passing this course, you should be able to:

Select the best specification language for a particular new protocol, choosing one of ABNF, ASN.1 or XML or a combination of these.

Understand the pros and cons of using an existing protocol as a basis for a newly designed protocol.

Understand and be able to discuss pros and cons of different choices in protocol design.

Be able to write a specification for a simple new protocol (not using advanced features such as ASN.1 subclasses).

Understand the principles of the major Internet TCP-based application layer protocols, how they are designed and problems with each of them.

Be able to read and understand an internet application layer protocol standard.

## Course contents

The course segment includes how protocols are designed in order to be extensible, protocol specification languages ABNF, ASN.1 and XML, e-mail protocols (SMTP, POP, IMAP, RFC822, MIME), web protocols (HTTP, cookies, HTML, CSS, XSLT, WebDav) RSS-Pod-sändning, PICS, FTP and NNTP.

## Course literature

No text books.

Compendiums are sold at the student office, and are also almost completely available on the web at

<http://dsv.su.se/jpalme/internet-course/Int-app-prot-kurs.html#reading>

Since the compendiums are in English, you can study this course in English, even though the lectures are in Swedish. If there are many students not speaking Swedish, some of the most important lectures can be duplicated in English.

## Examination

- INL1 - Assignment, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 6.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

## Other requirements for final grade

Written exam plus a work task. The choice of score between A and E is only based by the written exam, the work task is only scored P/F, but P on the work task is required to get any other score than F on the whole course.

The exam questions are always given in both English and Swedish, and you can write your answers in either of the languages.

The exam will contain small tasks of constructing protocol specifications using ABNF, ASN.1 or XML, tasks of explaining how and why standards handle certain issues in certain ways, questions on issues to be handled during the development of protocols. Examples of exams can be found at <http://dsv.su.se/jpalme/internet-course/Int-app-prot-kurs.html#exams> For the score F is usually required half the maximum possible points on the exam questions. Only very good answers will receive the highest score.

A Excellent understanding of the ideas and principles and excellent capabilities of writing protocol specifications.

B Good understanding of the ideas and principles and good capabilities of writing protocol specifications.

C Same as D but shows some additional insight into several of the issues.

D Same as E but shows some additional insight into some of the issues.

E Basic understanding of most of the ideas and principles and some capabilities of writing protocol specifications.

Fx Basic understanding of some of the ideas and principles and some capabilities of writing protocol specifications.

F Less than Fx.

## Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.