Course Program
ETSF10 Internet Protocols

Internet and Internet related protocols have evolved to constitute the common network structure for all data and telephone communication. This course gives an overview over some of these protocols and a deepening into a selection.

The course is mandatory for C2 students as the second part of their ETSF05 course and optional for C4, D4, E4, and the Wireless Master Program.

Intended Learning Outcomes

At the end of the course "Internet Protocols", the students will be able to:

1. In terms of knowledge and understanding:
    a. Explain basic network routing concepts and algorithms; apply them into given topologies;
    b. Explain how the Internet protocol suite operates; describe the functions of various protocols;
    c. Explain the concept and usage of node addressing; classify addresses into network layers.
2. In terms of skills and abilities:
    a. Examine data packets and compare communication patterns to protocol descriptions;
    b. Experiment with real network routers and configure them according to instructions.
3. In terms of critical judgement and evaluation:
    a. Formulate the relation between the various Internet protocols;
    b. Evaluate the suitability of an Internet protocol for supporting a given application type.

Literature

In this course we use as textbook William Stallings "Data and Computer Communications", 10th ed, International ed, Pearson, ISBN 978-1-292-01438-8. We will also use some extra material that can be downloaded from the course's moodle. The study guide found on the course's web page shows which parts of the text book and other material that are included in the course.

Structure

The course's content is defined by the course study guide as well as the contents of the lectures, exercise seminars and laboratory projects. The course is divided into three sections, each consisting of two lectures, one exercise seminar. Two laboratory project, included in section one and two, are mandatory. Included in each part is also on online discussion and a quiz which makes up for examination of the course.

Projects

You will have to complete two laboratory projects. The time frame for the laboratory projects will partially overlap. The projects can be performed remotely or using your own computer. Supervisors will be available during the projects. Office hours will be announced on the course home page. Each project will end with a written laboratory report. To pass a laboratory project, its report needs to be accepted. A well carried out project is one that delivers a well-structured report in time, a project that discusses the assignments in a way showing that you have understood and penetrated them, the report has no or only minor fixes after first review and the group members work well together. Detailed information about the laboratory projects such as tutorials, guides, sample code and report templates will be found on the course home page.

Examination

There are three mandatory quizzes, performed via the department's moodle system, in the course. Each quiz has a time limit. The quizzes will be accessible for some days each. During this time window you can take the quiz any time you like. Once you have started, you will have to answer the questions and submit the quiz within the time limit. This is much like a normal quiz or exam, except for the fact that you can start taking the quiz any time within the quiz's open time window.

The results from the three quizzes will be summed up. To pass the course with grade 3 you have to have at least 60% of the maximum summa points, reaching 80% or more gives grade 4. If you have grade 4 and aim for grade 5 you have to pass on an optional home task.

Another <u>mandatory</u> part of the examination is three online discussions. A satisfactory contribution shows you have understood the topic of discussion well, thought thoroughly about an answer and, finally, formulated an original response not limited to the initial question but also reflecting on the answers given by your classmates before you. Your answers must reflect your efforts to go deeper into the subject.

Homepage and moodle

The course's home page is found on URL http://www.eit.lth.se/course/etsf10. The course also has an instance at the department's moodle system at URL http://elearning.eit.lth.se. Here you take the quizzes, take part in online discussions, hand in project reports and there are also forums for the course.

Staff

- Course Head/Lecturer: Jens A. Andersson
- Exercise Supervisor: Dimitrios Vlastaras
- Project Supervisors: William Tärneberg, Eduardo Mederios
- Course Secretary: Marianne Greiff Svensson

Offices, mail addresses and telephone numbers are found on the course home page.

Disclaimer

Last-minute changes of deadlines and syllabus might occur, but will be kept to a minimum and will be well communicated. Any comments and suggestions for improvement are most welcome, during the course as well as afterwards.