

Course name: **Real-time communication**

Credit (Points): 4

Applicant(s) including affiliation

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Brief description of course

The goal of the course is to give knowledge of terminology, concepts, standardized protocols, and research in the field of real-time communication. The course is based on seminars where, for each seminar, all attendees read paper(s) which are handed out by the teacher. In addition, for each seminar, one attendee penetrates the selected subject further and leads the seminar. Each participant prepares and leads two seminars and attends and reads the papers handed out for 10-12 seminars, including the two own. The exact rules will be given at course start to adapt for the number of participants.

Prerequisite

Undergraduate course in data communication. Basic knowledge of real-time systems.

Period during which the course will be given

March to May 2001.

Measures taken to facilitate external participation

In the event of external participation, several seminars can be concentrated to the same day to reduce travel overhead.

Funding required (i.e.

50 000 SEK.

Course plan/schedule

- Lecture: Introduction, similarities and dissimilarities with process scheduling, static and dynamic communication mapping, refreshment of data communication terminology, system and application examples
- Seminar: traffic models, performance analysis etc.
- Seminar: local area networks (LANs) and medium access methods: bus networks
- Seminar: local area networks and medium access methods: ring networks
- Seminar: switched networks in LANs and parallel/distributed computers
- Seminar: packet-switching, WAN, admission control etc.
- Seminar: Internet: RSVP, real-time transport protocols etc.
- Seminar: wireless real-time communication
- Seminar: fault-tolerant communication
- Seminar: industrial communication and field buses
- Seminar: clock synchronization
- Seminar: selected research projects (in addition to already covered research projects)

The seminar list will be updated at course start to adapt for the number of participants.