RANDOM PROCESSES, C level

7.5 ECTS credits **RPR850**

The board of the School of Information Science, Computer and Electrical Engineering approved the syllabus on June 11, 2003. The board of the School of Information Science, Computer and Electrical Engineering approved course literature on June 2, 2004.

PLACEMENT IN THE ACADEMIC SYSTEM

The course is optional for students at the Master's programme in Information Technology.

SPECIAL PREREQUISITES AND CONDITIONS FOR ADMISSION

Mathematical analysis with several variables, linear algebra and a basic course in probability theory and statistical theory.

PURPOSE AND OBJECTIVES

The course is intended to provide basic knowledge in modelling and analysing stochastic processes.

PRIMARY CONTENTS

Stochastic processes, stationary processes and the normal process.
Filtering, and AR and MA processes. Interference of stationary processes. Signal adapted filters, Wiener filters, and prediction of AR and MA processes.

LEARNING AND TEACHING METHODS AND EXAMINATION

Instruction consists of lectures, exercises and laboratory experiments.
Examination is by written exam and approved laboratory experiments. The course is graded using the ECTS scale.

COURSE EVALUATION

After completion of a course, the Director of Studies is responsible for giving the students the opportunity to participate in course evaluation. The results from the course evaluation will be used for further development and planning of the course. Participation in course evaluation is anonymous. The results are communicated to the director of studies, lab leader, teachers and students. A list of results and proposed measures are reported to the school board.

COURSE LITERATURE

Georg Lindgren and Holger Rootzén: *Random Processes*

Exercise assignments

Photocopied material