

Course Analysis: SF2940, Probability Theory, Fall term 2018

A course analysis meeting was held on Thursday November 15 at 10.30-11.00, in the examiner's office. The attendees were two student representatives from I (industrial engineering and management), Lukas Schough (teaching assistant) and Boualem Djehiche (course examiner). The invitation was on the initiative of the I-section student representatives and has not been extended to the students representatives for the programs D (computer science), F (engineering physics), M (mechanical engineering), and T (vehicle engineering).

Course Data • SF2940, Probability Theory 7.5 ECTS

- Period 1 , 2018
- Responsibility: Boualem Djehiche
- Teaching hours:
 - Lectures/exercises: 24+4 h
- Literature: Primary source: Lecture notes: Probability and Random Processes at KTH, by Timo Koski, Ed. 2014. Secondary source: A. Gut An Intermediate Course in Probability, Springer-Verlag 1995 or later editions.
- Credits:
 - Written examination: 7.5 ECTS
- Number of students that wrote the ordinary exam: 176. (113 students (i.e. 64%) passed the course).

Aim The aim of the course is to introduce basic notions, concepts and methods of pure probability theory at an intermediate level. For example, the student will learn how to compute the limit distribution of a sequences of random variables by transforms techniques. No knowledge of measure and integration theory is required. Techniques developed in this course are important in statistical inference, statistical physics, time series analysis, financial analysis, signal processing, mechanics, econometrics, and other branches of engineering and science. The course gives also a background and tools required for studies of advanced courses in probability and statistics. The course is lectured and examined in English.

Changes compared to the last year Typos in the course material have been fixed. Gave more clear guidelines on how to use the suggested literature including the course book and other material to improve learning.

Input from students An evaluation form was handed out to the students through Canvas. It contained only two questions: Two things you think are good about the course, Two ways to improve the course. Only 25 answers were received. But

many students did orally tell me and the teaching assistants their opinions. The content of the evaluation is that the way I advised them to use the course book and other materials helped a lot for an efficient learning, as the lecture notes are encyclopedic and are not really user-friendly for first time readers.

Conclusions The course was estimated as having just the right difficulty. It was considered very interesting and meaningful. This year, the homeworks were not included as part of the examination form but were used in the exercise sessions. They were very much appreciated by the students.

Teaching The teaching was done by lectures, exercises, and office hours.

Examination The examination was based on a written examination.

Prerequisites With the exception of certain issues regarding Fourier transforms as tool, no problem. This concerns, in particular, Indek students that have no such course in their curriculum. But, we recall every item needed in the course. This point was discussed with the students representatives.

Planned changes More worked out examples during the lectures.

Grading No problems.