

## Syllabus

## Basic Theory of Probability and Statistics

Lectures:	10:10am-12:05pm TTh, VinH 20
Instructor:	Nicolai Krylov, VinH 225, tel. 625-8338, krylov@math.umn.edu, <a href="http://www.math.umn.edu/~krylov">http://www.math.umn.edu/~krylov</a>
Office hours:	TTh, 13:25-14:15
Textbook:	Probability and Statistics (third edition) by M.H. DeGroot and M.J. Schervish, Addison-Wesley, 2002
The material to be covered:	Until page 346 excluding starred sections
Prerequisites:	This is a basic calculus-based probability course
Possible follow-ups:	Math 5652 - Intro to Stochastic processes, Math 5654 - Prediction and Filtering, Stat 5102 - Theory of Statistics II, Any number of these three courses may be taken for credit
Final examination:	10:30am-12:30pm Friday Dec 16, VinH 20

**General description:** Logical development of probability and some basic issues in Statistics. Probability spaces, random variables and their distributions and expected values, law of large numbers and central limit theorem, generating functions, sampling, sufficiency, and estimation.

Math 5651 and Stat 5101 are the same course with only the usual variations from section to section that one typically expects even when all sections have the same designator.

**Homeworks and Midterms:** There will be two midterms on Oct 4 and Nov 15 and 7 homework assignments due at the beginning of class on Sept 13, 27, Oct 11, 25, Nov 8, 22, Dec 6.

Homeworks should be written clearly and more or less neatly using one side of each sheet of paper. The total possible score on each assignment will be 36. No late assignment will be permitted. The best 6 assignments will be chosen for each student, giving a total possible score of 216. The raw score will be then divided by 6 to give a net score, the best possible net

score being 36. You can miss one and only one assignment with only the modest penalty of then having the other 6 being the best six.

**Evaluation:** The grade for the semester will be based on 144 possible points, 72 of which will be on the final examination. The other 72 will come from two possible 36-points contributions, one being the net score for homeworks and another being a rescaled result of two 115-minute midterm examinations. The rescaling may be made in order to take into account a possible overestimating of the level of students, which could cause low grades. The rescaling will result in multiplying the grades by a factor giving the best obtained grades in the class close to 36.

**Missed exams:** Make-up exams will be given to students who have a valid reason for missing an exam, and the reason must be documented. Make-up tests will be more difficult to compensate for the extra study time available to the student.

**Unusual attendance and related circumstances:** In case of unusual circumstances requiring more than one missed examination, more than one missed homework, or several missed class periods consult with Professor Krylov.