Course syllabus:

Interactive Demonstrations of Stochastic and Statistical Models. The Department of Statistics,

University of Haifa. Winter 2009.

Lecturer:	Yoni Nazarathy, yonin@stat.haifa.ac.il	
Day and time:	Lecture: Office hours:	Thursday 8:30-11:45. Days Sun-Tue, 10:00-16:00.

Course web-site:

http://stat.haifa.ac.il/~yonin/interactive_demos_course_winter_09/int_demos.html

Mailing list: All students must join the mailing list as specified in the web-site.

Student duties and grading:

- Two Intermediate exams on Fridays. The higher grade of the two – 40% of the course grade. The lower grade of the two – 20% of the course grade (as a shield).
- 2) Eight HW exercises 20% of the grade. The grading is based on the six best HW exercises.
- 3) Final project– 40% of the grade A full interactive demonstration with explanations.

Note: HW and final project may be handed in pairs for Bachelor's students. Master's students must hand in individually.

Prerequisites: Statistical Inference, Stochastic Processes, a programming course of some sort.

Short description:

The purpose of this course is to strengthen the students' understanding of stochastic and statistical models through the use of interactive graphical demonstrations. In addition the students gain a working knowledge of the Mathematica programming language and learn how to create interactive demonstrations of their own.

See course web-site for more information.

Bibliography: See web-site.

Study Program:

Lesson	<u>Subject</u>
1	Outline of the course – interactive demonstrations, Mathematica
2	Using Mathematica as a "strong calculator" – graphics, symbolics, numerics
3	Mathematica programming basics I
4	Mathematica programming basics II
5	Mathematica programming basics III
6	Demonstrations of probability distributions
7	Demonstrations of stochastic simulation
8	Demonstrations of statistical inference
9	Creating "Wolfram demo project style" demonstrations. Discussion of final project
10	Queueing Theory I
11	Queueing Theory II
12	Queueing Theory III