



Invitation to Courses

Discrete Mathematics and Probability (Half Module Mathematics)

Instructors: Nick Barton and Herbert Edelsbrunner
Teaching Assistant: Daniel Weissman

Course Description: Discrete mathematics and probability provide concepts that are fundamental to computer science, biology, and other disciplines.

This course emphasizes the connection to computer science and biology through the selection and motivation of topics:

- I. Fundamentals: counting, logic.
- II. Discrete Probability: in-exclusion, random variables.
- III. Processes: graphs, matrices, Markov, branching.
- IV. Continuous Probability: distributions, central limit, diffusion.

Literature: There are two main texts we use for the course, the first written for mathematics and computer science students and the second written for biology students.

Graham, Knuth, Patashnik.
Concrete Mathematics. A Foundation for Computer Science.
Addison-Wesley, Reading, Massachusetts, 1989.

Otto, Day.
A Biologist's Guide to Mathematical Modeling in Ecology and Evolution.
Princeton University Press, New Jersey, 2007.

Coursework: Grades will be based on classroom participation, solutions to class questions, and performance in final exam.

Course schedule: 2 weekly 75 min lectures Mondays and Wednesdays, 50 mins recitations
Lectures: Monday, Wednesday, 1:45-3:00
Recitations: Wednesday, 3:00-3:50

Course Academic Credits: 3 ECTS

Course Website: <http://pub.ist.ac.at/courses/2011/discretemathematicsandprobability/>

**Courses start on Monday, October 3, 2011 (1.45 - 3.00 pm)
Seminar Room Mondi 3, IST Austria Central Building, 1st floor**



2011-10-03

Please register for the course a week in advance with Academic Affairs (Marie.Trapp@ist.ac.at)

This invitation is valid as a ticket for the IST Shuttle from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage (note that the IST Shuttle times are highlighted in dark green):

http://www.ist.ac.at/fileadmin/user_upload/pdfs/IST_shuttle_2011.pdf.

The IST Shuttle bus is marked IST Shuttle (nr. 242) and has the Institute Logo printed on the side.