MATH 7244 SYLLABUS
SPRING 2008

Course Number:	Math 7244
Course Title:	Stochastic Processes and Stochastic Calculus I
Lecture Time:	MWF 2:05–2:55pm
Lecture Room:	Skiles 268
Instructor:	Dr. Yuri Bakhtin Office: Skiles 267 Email: *bakhtin@math.gatech.edu* Office hours: by appointment
Course Web Page:	*http://www.math.gatech.edu/~bakhtin/7244-spring-2008.html*
Contacting me:	The best way to contact me is by email.
Prerequisite:	Math 6242 (Probability II)
Brief Description:	An introduction to continuous-time martingales, Markov processes and Itô's stochastic calculus.
Book:	The official main text will be [KS]: *L.B.Koralov, Ya.G.Sinai, Theory of Probability and Random Processes,* Springer, 2007. Most of Part II of [KS] will be covered. Other useful books are [KS2]:*I.Karatzas, S.E.Shreve: Brownian Motion and Stochastic Calculus, 2nd edition,* and [O]*B.Oksendal, Stochastic Differential equations.*

Honor code: All students are expected to comply with the Georgia Tech Honor Code. The Georgia Tech Honor Code is available at *http://honor.gatech.edu*

Grading: There will be 4 homework assignments (each one is worth 10%, the lowest score will be dropped, which amounts to total of 30%), two in-class mid-term exams (each worth 15%), and one comprehensive final exam (worth 40% of the final score). Letter grades will be based on the accumulated points according to the standard 90%, 80%, 70%, 60% cutoffs: A: 90–100, B: 80–89, C: 70–79, D: 60–69, F: 0–59.

At the end of the course I shall evaluate the class distribution and decide if a curve is needed which may result only in lowering the above cutoffs.

Homework: Homework assignments will be given approximately once every three or four weeks, and will usually be due one week after they are handed out. All homework assignments will appear online at the URL given above.

You are allowed to work together with other students on the homework as long as you each independently write up your own solution. You are encouraged to ask me questions.

Please staple the homework and print your name on the front page of each assignment you submit. All homework is due by 5pm on the due date or it will be considered to be late and will not be accepted.

Exams: At the exams you will have to demonstrate your knowledge of the course material as well as your ability to solve problems based on it. Most problems on the exams will be similar to those discussed in class or assigned as homework. The *tentative* dates for the exams are:

Mid-term Exams: February 25 and April 11 (in class, 50 minutes),
Final Exam: April 29, 11:30 - 2:20.

All exams are closed-book and no aids will be allowed. Makeup exams are given only in extraordinary circumstances.

Some other special dates: There will be no class on January 21, March 17-21. February 29 is the Drop Day. April 25 is the last day of classes.