

**Course Announcement**  
**MAT455 Applied Stochastic Processes**  
**Spring 2005**

**Instructor:** Dong-Yun Kim, Ph.D.

**Course homepage:** <http://www.math.ilstu.edu/dhkim/455.html>

**Class time:** 8:00-8:50 AM MWRF at 126 Stevenson Hall.

**First meeting:** January 19th (Wednesday) at 126 Stevenson Hall.

**Description:** We cover standard materials in stochastic process theory, i.e., Markov chain, Poisson process, birth-death process, renewal process among others. If time permits, we will also discuss random walk and Gaussian processes. This is a non-measure theoretic, introductory course so the mathematical level is kept to the minimum. Computer will be used to simulate stochastic processes.

**Text:** *An Introduction to Stochastic Modeling* by Taylor and Karlin (3rd edition), Academic Press. In addition, class notes will be available at the course homepage.

**Reference (optional):** *Stochastic Processes* by Sheldon Ross.

**Software:** R, a statistical package is used. Prior knowledge of R is helpful but not essential because basics will be covered in detail during the course. You can freely download the package from <http://cran.r-project.org/>

**Prerequisites:** C or better in MAT 350, or permission by instructor. Basic knowledge of probability theory is assumed, although the essentials will be reviewed in the beginning of the semester. Strongly motivated students are always welcome.

**Grading:** Homework assignments 25%; Midterm exam (take-home) 20%; Final (take-home) 30%; Project 10%; Lab assignment 15%.

**For more information:** Call Dr. Kim at the office (438-7788) or send email to: [dhkim@ilstu.edu](mailto:dhkim@ilstu.edu)