GEORGE MASON UNIVERSITY
Systems Engineering & Operations Research

OR 542 (001)

Stochastic Models
Spring 2010

Course Instructor:	Dr. Daliborka Stanojević
Email:	dstanoje@gmu.edu
Office Hours:	Wednesdays 5:30 - 6:30 PM and by appointment Engineering Building 2248
Course Meeting Times:	Wednesdays 7:20 PM - 10:00 PM Robinson Hall A111

Course Text: Operations Research: Applications and Algorithms, Fourth Edition, Wayne L. Winston, Duxbury Press, 2003. ISBN: 0534380581

Course Web Page: https://courses.gmu.edu - The Blackboard web site will be used for course related communications, so please make sure that your GMU email address is up to date.

Course Description: The intent of this course is to provide a perspective on the analysis of systems that are stochastic in nature, that is, ones that have a random component. Prerequisites are knowledge of the fundamental elements of probability (no statistical inference is needed) and a general graduate-level maturity in applied mathematics. There will be a special emphasis on the numerical solution of problems using spreadsheet software.

Class Policies: Each student is expected to read the assigned material before class for a given day and be prepared for a meaningful class discussion. Class participation will account for 5% of the course grade.
There will be two graded homework assignments that will account for 15% of the course grade. Additional homework assignments will be provided throughout the semester, but not collected. It is strongly recommended that all assignments are completed, as the assignments are designed to enforce the knowledge gained in the course and provide proper preparation for the midterm and final exams. Graded homework assignments will be posted on the Blackboard and due two weeks after the posting of the assignment. No late work will be accepted.

Exam Policies: There will be two closed book exams: one midterm exam and the final exam. No make-up exams will be given without a valid excuse that is in accordance with university policy.

Grading: The course grade will be determined based on the total score received on exams, assignments and class discussions. The score weights are as follows:

Class discussion	5%
Homework assignments	15%
Midterm Exam 1	40%
Final Exam	40%
Total	100%

Final grades will be determined based on the final total score using the following policy.

Total Score	Grade
89.5% - 100 %	A
79.5% - 89.4 %	B
69.5% - 79.4 %	C

Grade pluses and minuses will be determined at the end of the semester.

Academic Integrity: GMU is an Honor Code university; please see the University Catalog for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone elses work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

Special Needs: If you are a student with a disability and you need academic accommodations, please see the instructor and contact the Office of Disability Services (ODS) at 993-2474. All academic accommodations must be arranged through the ODS. http://ods.gmu.edu

Course Schedule (Subject to Change)

Class	Date	Topic	Text Reading
1	Jan-20	Course Introduction & Review of Probability Theory	Chapter 12
2	Jan-27	Review of Probability Theory & Decision Making Under Uncertainty	Chapters 12, 13 (§1-4, 6)
3	Feb-3	Decision Making Under Uncertainty	Chapters 12, 13 (§1-4, 6)
4	Feb-10	Deterministic Inventory Models	Chapter 15 (§1-7)
5	Feb-17	Deterministic Inventory Models	Chapter 15 (§1-7)
6	Feb-24	Probabilistic Inventory Models	Chapter 16 (§1-6)
7	Mar-3	Review for the Midterm Exam	
8	Mar-10	**Spring Break**	University Closed
9	Mar-17	MIDTERM EXAM (covering classes 1-7)	
10	Mar-24	Markov Chains	Chapter 17 (§1-5)
11	Mar-31	Markov Chains & Queueing Theory	Chapter 17 (§1-5) Chapter 20 (§1-11)
12	Apr-7	Queueing Theory	Chapter 20 (§1-11)
13	Apr-14	Forecasting	Chapter 24 (§1-6)
14	Apr-21	Simulation	Chapter 21 (§1-9)
15	Apr-28	Review for the Final Exam	
	May-5	FINAL EXAM (covering classes 1-15)	