OR/MATH 441: Deterministic Operations Research

Fall 2014
Exploratory Hall L003
Tuesday/Thursday 10:30 am-11:45 am

Instructor: Chien-Chung(Edward) Huang
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Office hours: Wednesday 2pm - 4pm, and by appointment; via e-mail at other times
Prerequisites: MATH 203.

Textbook: *Operations Research Applications and Algorithms*, Wayne L. Winston (4th edition)
Software: *MPL*, available from www.maximal-usa.com
Course objectives: The course focuses on modeling, developing, and solving a variety of deterministic optimization problems. Students will gain experience in converting a variety of applied problems to optimization models, representing these models in a sophisticated modeling language, solving these models with a variety of algorithms and software, and interpreting the results using sensitivity analysis and other approaches. All course materials will be posted at Blackboard.

Grading:
20% Homework
20% Midterm exam
20% Computational project
15% In-Class Assignments
25% Final exam

Coursework & Grading Policies
Unless otherwise indicated, you are expected to work individually on homework assignments, projects, and exams. Late submissions are not accepted. You can submit homework directly to me via email at chuang10@gmu.edu.

GMU Email Accounts
Students must use their Mason email accounts to receive important University information, including messages related to this class. See http://masonlive.gmu.edu for more information.

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

Tentative Course Schedule

Date	Topic	Chapters
Aug 26	Introduction; Linear Programming	1, 3.1-3.2
Aug 28		
Sep 2	Linear Programming	3.3-3.9
Sep 4		
Sep 9	The Simplex Method	4.1-4.2, 4.5
Sep 11		
Sep 16		4.6-4.8, 4.12
Sep 18		
Sep 23	Sensitivity Analysis & Duality	6.1-6.3
Sep 25		
Sep 30		6.5-6.9
Oct 2		
Oct 7	*Midterm*	
Oct 9	MPL Formulations	
Oct 14	Columbus Day; No Class	
Oct 16	Transportation Problem	7.1
Oct 21		7.2
Oct 23	Networks	8.1-8.2
Oct 28		8.3, 8.6
Oct 30	Integer Programming	9.1-9.2
Nov 4		9.3, 9.5
Nov 6		
Nov 11		9.7, 11.1-11.3
Nov 13		
Nov 18	Nonlinear Programming	11.1-11.4, 11.6
Nov 21		
Nov 25		
Nov 28	Thanksgiving; No Class	
Dec 2	Nonlinear Programming	11.8-10
Dec 4		
Dec 16	*Final Exam (10:30 am – 1:15 pm)*	

Technology Policies

Cell phones, pagers, and other communicative devices are not allowed in this class. Please keep them stowed away and out of sight. Laptops or tablets (e.g., iPads) may be permitted for the purpose of taking notes only, but you must submit a request in writing to do so. Engaging in activities not related to the course (e.g., gaming, email, chat, etc.) will result in a significant deduction in your participation grade.

Academic Integrity
GMU is an Honor Code university; please see the Office for Academic Integrity 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 else's 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.

University Policies
The University Catalog, http://catalog.gmu.edu, is the central resource for university policies affecting student, faculty, and staff conduct in university academic affairs. Other policies are available at http://universitypolicy.gmu.edu/. All members of the university community are responsible for knowing and following established policies.