Math 21-257: Models and Methods for Optimization  
Spring 2009 Course Syllabus  
Course Website: www.math.cmu.edu/users/weikang/math257

Prerequisite: 21-256 or Permission of Instructor

Course Description: This course introduces basic methods of operations research and is intended primarily for Business Administration and Economics majors. Review of linear systems; linear programming, including the simplex algorithm, duality, and sensitivity analysis; the transportation problem; other structured optimization problems. We will cover most of the material in Chapters 1, 3, 4 and 7. Linear programming is the central topic.


Instructor: Weining Kang, weikang@andrew.cmu.edu, 268-8486

● Lecture Time: MWF 2:30pm - 3:20pm DH 1212
● Office/Hours: WEH 6218/Tu 4:00pm - 5:00pm; Th 4:00pm – 6:00pm

Teaching Assistants:
● Pall Melsted, pmelsted@andrew.cmu.edu
  ○ Office/hours: PPB 342/ TBA
  ○ Recitation (A): Th 1:30pm - 2:20pm DH 2122
  ○ Recitation (E): Th 4:30pm - 5:20pm DH 1209
● David Offner, doffner@andrew.cmu.edu
  ○ Office/hours: PPB 342/TBA
  ○ Recitation (B): Th 1:30pm - 2:20pm PH 226C
  ○ Recitation (C): Th 2:30pm - 3:20pm SH 212
● Lisa Espig, lespig@andrew.cmu.edu
  ○ Office/hours: WEH 7207/TBA
  ○ Recitation (D): Th 3:30pm - 4:20pm PH 126A

Attendance: Lecture and recitation attendance is required. In the event that you miss a
class, it is your responsibility to get the material from another student or the instructor. It is absolutely vital that you read the assigned material in advance so that you may be sufficiently prepared to understand the concepts when they presented in class and be able to ask focused questions about concepts that are not yet clear to you.

**Homework:** Homework assignments will be announced in lectures and will also be posted on the course website. They should be completed by the indicated due dates. Homework will be collected at the **END OF THE LECTURE** on the due dates. Late homework will **NOT** be accepted without a proper reasoning. The teaching assistants have mailboxes in Wean Hall 6113. You can turn in your homework there in advance of the lecture if you will be unable to attend. **ALL ASSIGNMENTS MUST INCLUDE YOUR RECITATION SECTION LETTER AND YOUR FULL NAME PRINTED** and will be returned to you during recitation. These homework assignments will comprise a substantial portion of your grade and you will be expected to take them seriously and to **WRITE THEM UP NEATLY**. Please make every effort to complete all the assigned exercises. The assigned exercises will be used as a resource for constructing your exams.

**Exams:** There will be three (3) midterm exams as well as one (1) final. The midterm exams are tentatively scheduled for February 9th, March 23rd and April 24th. Makeup exams may be at least partially oral and they will be given only for appropriately documented reasons of illness, family emergency, religious obligation, or participation in a university sponsored event.

**Grading:** Your course grade will be based on the better one of the following two:

- 25% Homework, 15% Exam 1, 15% Exam 2, 15% Exam 3, 30% Final Exam
- 25% Homework, 25% Exam 1, 25% Exam 2, 25% Exam 3

**Academic Dishonesty:** Academic dishonesty is considered a serious offense at Carnegie Mellon University. Students caught cheating will face an administrative sanction which may include failure of the course or even expulsion from the university. Students may work together on their homework, but students must each write up their own solutions, and be able to explain their work.