C&O 350
Linear Programming (Winter/96)

Lecturer:	Bill Cunningham	Henry Wolkowicz
Sections:	2	1
Course Times:	TR 10:00-11:30	TR 1–2:30
Course Room:	MC2036	E1 1501
Office:	MC5033A	MC6065
Office Hours:	M 1–2, WTh 2–3	M 2–3, Th 3–4
Phone:	x4627	x5589
Email:	whcunnin@math	henry@orion

TA:	Troy Vasiga	Alan Ling	Graeme Hepworth	Matthew Becker
Section:	1	1	2	2
Office:	MC4008	MC5164	MC5136A	MC4008
Office Hrs:	M 11-12	T2:30-3:30	T9-10,W3-4	W11-12
Phone:	5917	x6673	x5334	x5917
Email:	tmjvasiga@ barrow	chaling@ barrow	ga2hepworth@ barrow	mwbecker@ barrow

Text : Chvatal, *Linear Programming*, Freeman, New York, 1983.

Prerequisites : Math 235, Linear Algebra

Course Rationale: The aim of this course is to understand the basic principles and theory of linear programming.

Grading: 10 percent assignments; 25 percent midterm; 65 percent final. A missed assignment or midterm will be treated as a mark of zero unless the cause is illness (medical documentation required), or similar good reason given promptly in writing, in which case the corresponding weight will normally be transferred to the final exam.

Midterm: Thursday, February 15, 7–9 p.m. in rooms E1 1501, 2527, 3516, and 3518. Students having a conflict can write the exam on the same day 5–7 p.m., in MC4021. Such students must obtain permission in advance from their instructor.

Assignments: There will be approximately 5 assignments. The assignments are due on the stated date **at the beginning of class** unless another arrangement has been made with the instructor **in advance**.

Tests: The tests will cover the basic material covered in the lectures. It is important to know and understand the definitions and theorems, and to be able to derive simple consequences of them, as well as to be able to apply the algorithms. It is extremely important to attend classes, since some of the material will differ from the text.

Topics covered: The topics covered will include most of chapters 1, 2, 3, 5,7,8,9,10 of the text. This includes material on the revised simplex method, methods for solving general LPs, duals of general LPs (including complementary slackness conditions), theorems of the Farkas lemma type, sensitivity analysis. There will also be additional material on integer programming and interior point methods, if time permits. Knowledge of first year linear algebra is crucial to this course. Although the text does not assume linear algebra for the first few chapters, the lectures will. We will be giving a somewhat different view of the material, emphasizing its connections with linear algebra. DO NOT be tricked into thinking that you do not need linear algebra because this part of the text manages (with great difficulty) to do some things without it.

Computing: For some parts of the course the matrix computation package MATLAB will be used. It is available on undergrad.math. If you have never logged on to your undergrad.math account, you should get your password by taking identification to MC 3011.

Miscellaneous: A WWW home page is available. It contains e.g. miscellaneous information files, assignments and solutions, notes, etc...
The URL is:
ftp://orion.uwaterloo.ca/pub/henry/teaching/w96/350.w96/readme.html
(On campus a simpler address is: http://orion/~hwolkowi)
Assignment solutions and copies of other course handouts will be available on hourly reserve in the Davis Centre Library. The call number is XE 1031.
A MATLAB Primer is available by anonymous ftp at orion.uwaterloo.ca as the file pub/henry/matlab/primer41.ps.Z. You can also get this primer over WWW with URL
ftp://orion.uwaterloo.ca/pub/henry/matlab/primer41.ps.gz.

The newsgroup uw.co.co350 is for questions and discussions on linear programming.