Syllabus for Math 5711
Linear and combinatorial optimization
Spring 2001

Lecturer: Mark de Longueville, Vincent Hall 260, 625-2036

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Time and Location: 12:20-1:10 MWF, VinH 301

Office Hours: 10:00-11:00 MTueW, and by appointment

Text: Vašek Chvátal, Linear Programming, W. H. Freeman and Company, 1983

Other references: Alexander Schrijver, Theory of linear and integer programming, John Wiley & Sons, 1986

About my concept: The book of Chvátal is very basic, and sometimes hard to lecture out of. Therefore I will often use other sources, in particular the book of Schrijver. Doing so I will try to go along with the topics discussed in Chvátal's book, so that you can read everything over again from his perspective. This requires some work and your attendance in class.

Prerequisites: You have to feel comfortable with the basic concepts of linear algebra.

Grading: Your grade will be determined by the following weights:

- Final exam 40%,
- Mid-Term I 20%,
- Mid-Term II 20%
- Homework and in class participation 20%

Homework is an integral component of the course. I encourage you to work together on the homework problems, but you must write up the solutions in your own words. An important part of the class participation will be presentation of homework solutions to the class.

Exams: There will be two in class mid-term exams on

- Friday, February 16, and
- Friday, March 23.

The final exam is scheduled for Tuesday, May 8, 10:30-12:30.

Absence from exams: Missing a mid-term exam is permitted only for the most compelling reasons. You should obtain my permission in advance to miss an exam. Otherwise you will be given a 0. If you are excused from taking an exam, extra weight will be given to the final exam. Except in extraordinary situations, all students missing the final exam will fail the course.

Official University Grading Standards:

- **A** achievement that is outstanding relative to the level necessary to meet course requirements.
- **B** achievement that is significantly above the level necessary to meet course requirements.
- **C** achievement that meets the course requirements in every respect.
- **D** achievement that is worthy of credit even though it fails to meet fully the course requirements.
- **S** The minimal standard for S is to be no lower than C-. The instructor or department must inform the class of this minimal standard at the beginning of the course.
- **F** (or **N**) Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I.
- **I** (Incomplete) Assigned at the discretion of the instructor when, due to extraordinary circumstances, e.g., hospitalization, a student is prevented from completing the work of the course on time. Requires a written agreement between instructor and student.

Official University Statement on Academic Dishonesty: Academic dishonesty in any portion of the academic work for a course shall be grounds for awarding a grade of F or N for the entire course.

Official University Statement on Credits and Workload Expectations: For undergraduate courses, one credit is defined as equivalent to an average of three hours of learning effort per week (over a full semester) necessary for an average student to achieve an average grade in the course. For example, a student taking a three credit course that meets for three hours a week should expect to spend an additional six hours a week on coursework outside the classroom.

Explanation on Incompletes, S/N: The grade "I" is assigned only when a student has satisfactorily (a C grade or better) completed all but a small portion of the work for the course, and has made prior arrangements to complete the work. This means, for example, if you quit attending class after the first exam, and then request an "I" in the eighth week, your request will be denied. You will fail the course. To get an S for this course you must obtain a grade of at least C-.

Scholastic Conduct: Each student should read his/her college bulletin for the definitions and possible penalties for cheating. During the exams you must do your own work. Students suspected of cheating will be reported to the Scholastic Conduct Committee for appropriate action.