MATH 308 D200, Fall 2019

Course Outline

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Contact

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Times and Locations

Lectures

Tu 4:30 pm – 5:20 pm SWH 10041

Th 3:30 pm – 5:20 pm SWH 10041

Tutorials

D201 W 10:30 am – 11:20 am AQ 5037

D202 W 3:30 pm – 4:20 pm AQ 5016

D203 W 4:30 pm – 5:20 pm AQ 5037

Textbook

Linear Programming and its Applications
James K. Strayer
1989, Springer-Verlag
ISBN: 9781461269823

Grading

Assignments

6 assignments in total (Due Thursdays, dates will be posted)

Midterm

October 22 (Tuesday), in class

no make up midterm

Any inquiries regarding the midterm must be made within two weeks of its grade release.

Final Exam

3:30 pm – 6:30 pm December 13 (Friday), room TBA

Final course percentage calculation

15%	Assignments
35%	Midterm
50%	Final Exam

Academic Integrity

Simon Fraser University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (http://www.sfu.ca/policies/teaching).

Course Contents

Linear Programming.
- Examples - formulation of optimization problems as linear programming problems.
- Canonical forms for linear programming problems. Polyhedral convex sets.

The Simplex Algorithm.
- Tucker Tableaus.
- The simplex algorithm for maximum tableaus and minimum tableaus.
- Cycling.

Noncanonical Linear Programming Problems.
- Unconstrained variables.
- Equations as constraints.

Duality Theory.
- The dual simplex algorithm.
- Complementary slackness.
- The duality theorem.

Application: Matrix Games.
- Linear Programming formulation of matrix games.
- The von Neumann minimax theorem.

Other applications (as time permits).
- Transportation and assignment problems.
- Network-flow problems.