

MATH 361
Operations Research I
Winter 2021

- Preface:** Due to exceptional circumstances, this course will be taught and all assessments will be done completely ONLINE.
- Instructor:** Dr. R. J. Stern
Email: ron.stern@concordia.ca
- Lectures:** Tuesdays and Thursdays, 14:45–16:00.
- Office Hours:** To be announced. (Zoom meetings)
- Text:** *Operations Research: Applications and Algorithms*, 4th Edition, by W.L Winston.
Available online at:
<https://itslearningakarmazyran.files.wordpress.com/2015/09/operation-research-applications-and-algorithms.pdf>
- Assignments:** Homework will be assigned approximately every week, on Moodle. **Late homework will not be accepted.** Submit scanned assignments through Moodle as a **single PDF file**. **No other formats or ways of submitting your work are allowed.** (There are free scanner apps such as Genius Scan for your smartphone). You should provide complete arguments in your work. Students should attempt all problems. Solutions will be posted on Moodle.
- Students must follow the University's policy on Academic Integrity:
<http://www.concordia.ca/students/academic-integrity.html>
- Online Midterm:** There will be a midterm test scheduled in the 7th or 8th week of classes. The exact date of the exam will be announced. **There will be no make-up midterm exam.**
- Final Exam:** This will be of "take-home" type.
- Topics:** Time frame is approximate and is meant to include the midterm test.
- Topics to be covered:** **Chapter 3.** Introduction to Linear Programming (3.1-3.4).
Chapter 4. The Simplex algorithm for Goal Programming (4.1-4.8, 4.11-4.14).
Chapter 6. Sensitivity analysis and duality (6.1-6.3, 6.5-6.7).
Chapter 7. Transportation, assignment, and transshipment problems (7.1-7.3).

Chapter 11. Nonlinear Programming (11.2-11.4, 11.6, 11.8, 11.9).

Chapter 14. Game Theory.

Final Grade:

The final grade will be the higher of (a) or (b):

(a) 10% for the assignments, 30% for the midterm test, 60% for the final.

(b) 10% for the assignments and 90% for the final examination.

If the grading scheme for this course includes graded assignments, a reasonable and representative subset of each assignment may be graded. Students will not be told in advance which subset of the assigned problems will be marked and should therefore attempt all assigned problems.

Academic Integrity and the Academic Code of Conduct

This course is governed by Concordia University's policies on Academic Integrity and the Academic Code of Conduct as set forth in the Undergraduate Calendar and the Graduate Calendar. Students are expected to familiarize themselves with these policies and conduct themselves accordingly. "Concordia University has several resources available to students to better understand and uphold academic integrity. Concordia's website on academic integrity can be found at the following address, which also includes links to each Faculty and the School of Graduate Studies: concordia.ca/students/academic-integrity." [*Undergraduate Calendar, Sec 17.10.2*]

Behaviour

All individuals participating in courses are expected to be professional and constructive throughout the course, including in their communications.

Concordia students are subject to the [Code of Rights and Responsibilities](#) which applies both when students are physically and virtually engaged in any University activity, including classes, seminars, meetings, etc. Students engaged in University activities must respect this Code when engaging with any members of the Concordia community, including faculty, staff, and students, whether such interactions are verbal or in writing, face to face or online/virtual. Failing to comply with the Code may result in charges and sanctions, as outlined in the Code.

Intellectual Property

Content belonging to instructors shared in online courses, including, but not limited to, online lectures, course notes, and video recordings of classes remain the intellectual property of the faculty member. It may not be distributed, published or broadcast, in whole or in part, without the express permission of the faculty member. Students are also forbidden to use their own means of recording any elements of an online class or lecture without express permission of the instructor. Any unauthorized sharing of course content may constitute a breach of the [Academic Code of Conduct](#) and/or the [Code of Rights and Responsibilities](#). As specified in the [Policy on Intellectual Property](#), the University does not claim any ownership of or interest in any student IP. All university members retain copyright over their work.

Extraordinary circumstances

In the event of extraordinary circumstances and pursuant to the [Academic Regulations](#) the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of the change.