

YORK UNIVERSITY
School of Administrative Studies
Summer (SU) 2022, AP/ADMS 3330 Section B
Introduction to Management Science

Course Director: Shamim Abdullah,

Email: sabdulla@yorku.ca

Time: Wednesday, 1:00 pm – 4:00 pm

Location: DB0007

Office Hours: Tuesday on class dates, 12:30 pm – 1:00 pm (By appointment)*.

Course Description:

This course is an introduction to the basic theory underlying Management Science and Operations Research. This course not only helps the students learn how to model real-life problems as mathematical models but also provides them the mathematical foundation and the spreadsheet skills to solve them. Specifically, using spreadsheets, the course focuses on modeling a variety of applications of finance, marketing, and production/operations management with spreadsheets. Some of these applications include inventory control, workforce management, location and distribution problems, revenue management, portfolio selection, capital budgeting, and optimal sales allocation. The course also focuses on theories on basic optimization techniques such as the simplex method for solving linear programming, duality theory, Branch-&-Bound algorithm for solving integer linear programming, and multi-criteria decision making.

Prerequisite: AP/ADMS 2320 3.0

Course credit exclusion: AP/ADMB 3330 3.00

Course Website: <https://eClass.yorku.ca/>

Required Textbook:

Anderson, Sweeney, Williams, Camm, Cochran, Fry, and Ohlmann, *An Introduction to Management Science: Quantitative Approaches to Decision Making*, 15th Edition, 2019 South-Western Cengage Learning.

Reference/Optional: Spreadsheet Modeling and Decision Analysis, A Practical Introduction to Business Analytics, 8th edition, C.T. Ragsdale, 2016.

Supporting/Additional material (if any) will be posted on the course website.

Marking Scheme:

Test – I	30%
Test – II	30%
Final Exam	40 %
Total	100 %

Tutorials: TBA

**48 hours prior send email for appointment.*

NOTE:

The use of electronic gadgets such as laptops/notebooks/tablets, smart phones, or cell phones is NOT allowed in the classroom.

- Please keep your electronic gadgets in your bag, They should not be on your desk.
- If there is anything urgent requiring your attention, you may leave the classroom quietly, without disturbing your classmates, and use your gadget outside.
- No excuses (e.g., use of e-book, use of slides or taking notes directly on the gadget) will be accepted.

Academic honesty and integrity

In this course, we strive to maintain academic integrity to the highest extent possible. Please familiarize yourself with the meaning of academic integrity by completing SPARK's [Academic Integrity module](#) at the beginning of the course. Breaches of academic integrity range from cheating to plagiarism (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.). All instances of academic dishonesty in this course will be reported to the appropriate university authorities and can be punishable according to the [Senate Policy on Academic Honesty](#).

Term Tests/Final Exam

- There will be two tests within the term and a final exam. Both term tests and the final examination may consist of multiple-choice questions and questions/problems requiring full answers/solutions. Tests and Final Exam are all closed book and notes; however, a formula sheet will be provided, as may be required.

Answers for Multiple Choice and True/False Questions must be recorded on a SCANTRON sheet by pencil within the designated time of the testing components. NO EXTRA time will be granted to “bubble in” the Scantrons. No Excuses (e.g., “I answered all questions. Just need to transfer to Scantron.”) will be accepted.

It is your responsibility to correctly bubble on Scantron the test/exam version under “Test Form”. Questions papers will not be returned to the students, you will get answer book which will have your MCQs portion of marks. However, you can review on individual basis during office hours. To review you must submit your request via email within five days from the return date not from your collection date. When reviewing you are not allowed to take notes, pictures or copy any part of the testing instrument.

- If you miss any term test, the weight of **one and only one** missed test (30%) will be automatically transferred (no documents such as doctor's note needed) to the final examination. If you miss both term tests, your final examination will only weigh 70%.
- If you have written BOTH Term Test I and Term Test II, the final exam will be non-cumulative. On the other hand, the 70% final exam will be comprehensive. Exams are **closed** book and notes. However, a formula sheet, as may be required, will be provided by the professor for each exam.
- Do not write an exam if you do not feel well. Once you start to write an exam, the marks you receive will be used. (If no work is completed, a mark of zero will be assigned.)
- **There are no alternative exam dates and times for the Term Tests.**
- If students miss the Final Examination and have to defer the exam, the deferred exam will be a **comprehensive** examination.
- If you need religious accommodations, please follow the York University policy/procedure, and once approved, update your professor at least 7 days before the testing component.

General Policy

1. **WARNING: Distribution or uploading of course content is STRICTLY PROHIBITED. All material is copyright protected.**
2. Concerns regarding marks **will not be entertained after a week** from the release of the marks/result.
3. Students will not be allowed to write the term tests and final exam unless they are on the class list/sign-in sheet. There will be no exceptions. It is the responsibility of students to ensure that they are properly enrolled in the course.
4. Due to unavoidable circumstances, if any lecture is missed due to technical reasons, the date for the make-up lecture will be announced on the course website.
5. Please ensure you read all documentation on the course eClass site.
6. It is your responsibility to visit the course eClass site regularly.
7. If you have a query about the questions solved in any tutorial session, communicate directly with the tutor, if you are not satisfied with the reply of your tutor, then contact your professor.
8. Due to the high volume of emails, it might be possible that replies to your email queries might take longer than usual. Please expect no (or limited) response to your e-mails during the weekends.

Course Schedule:

Note that the course schedule below is subject to change as deemed appropriate/necessary by the Professor during the semester.

Check the course website periodically for possible changes in coverage, if any.

Session	Date	Topic	Quiz/Chapters
1	May 11	Introduction to Optimization LP Graphical Method	Ch 2
2	May 18	LP Sensitivity Analysis	Ch 3
3	May 25	LP Applications	Ch 4
4	Jun 01	Integer LP & 0-1 Variables	Ch 7
	Jun 5 SUNDAY	Term Test I time slot 2:00 pm - 5:00 pm Location: TBA Details: TBA	Chapters 2, 3, and 4
5	Jul 08	Distribution and Network Models	Ch 6
6	Jun 15	Multicriteria Decisions	Ch 14
	Jun 22	<i>No-Class: Reading Week</i>	
7	Jun 29	Time Series Analysis and Forecasting	Ch 15
	July 3 SUNDAY	Term Test II time slot 10:00 am - 1:00 pm Location: TBA Details: TBA	Chapters 6, 7, and 14
8	Jul 06	LP: Simplex Method (Part-I)	Ch 17 (Cengage website)
9	Jul 13	LP: Simplex Method (Part-II)	Ch 17 (Cengage website)
10	Jul 20	Nonlinear Optimization Models	Ch 8
11	Jul 27	Simulation	Ch 12
Common Final Examination* (Aug 11-18) (Date, Time and Location to be announced on registrar's/university website)			

* If the student wrote both term tests, Coverage will be Chapters 8, 12, 15 and 17. If a student misses a term test (or both term tests), his/her final exam will be a more balanced comprehensive exam that covers all chapters.

RELEVANT UNIVERSITY/LA&PS/SCHOOL REGULATIONS

Applicable to all ADMS and DEMS courses

RELEVANT UNIVERSITY REGULATIONS

Should there be any updates to these regulations, you can review the most recent Faculty of Liberal Arts and Professional Studies regulations, which are used by SAS (the School of Administrative Studies) at:

<https://www.yorku.ca/laps/sas/academic-resources/common-course-policies/>

Deferred Final Exams: Deferred standing may be granted to students who are unable to write their final examination at the scheduled time or to submit their outstanding course work on the last day of classes. Details can be found at <http://myacademicrecord.students.yorku.ca/deferred-standing>

In order to apply for deferred standing, students must register at:

<https://www.yorku.ca/laps/sas/academic-resources/deferred-exam-requests/>

Followed by handing in a completed original Deferred Standing Agreement (DSA) form and supporting documentation directly to the main office of the School of Administrative Studies (282 Atkinson) and add your ticket number to the DSA form. The DSA and supporting documentation must be submitted no later than five (5) business days from the date of the exam. These requests will be considered on their merit and decisions will be made available by logging into the above-mentioned link. No individualized communication will be sent by the School to the students (no letter or e-mails).

IMPORTANT NOTE: Any request for deferred standing on medical grounds must comply with University regulations. At the time of writing of this outline, the requirement for APS forms had been suspended due to COVID-19. If it resumes, the University will inform you of such resumption, and you would include an Attending Physician's Statement form; a "Doctor's Note" will not be accepted.

Students with approved DSA will be able to write their deferred examination during the School's deferred examination period. **Deferred exams might take place during the regular exams period or in subsequent weeks depending on the course;** precise dates are known when the Office of the Registrar publishes the final exam schedule of the term. No further extensions of deferred exams shall be granted. The format and covered content of the deferred examination may be different from that of the originally scheduled examination. The deferred exam may be closed book, cumulative and comprehensive and may include all subjects/topics of the textbook whether they have been covered in class or not.

NOTE: The deferred examination will be cumulative/comprehensive and cover all material for the semester. This applies to all students writing a deferred Final Exam, including those who wrote both Test 1 and Test 2.

Academic Honesty: The Faculty of Liberal Arts and Professional Studies considers breaches of the Senate Policy on Academic Honesty to be serious matters. The Senate Policy on Academic Honesty is an affirmation and clarification for members of the University of the general obligation to maintain the highest standards of academic honesty. As a clear sense of academic honesty and responsibility is fundamental to good scholarship, the policy recognizes the general responsibility of all faculty members to foster acceptable standards of academic conduct and of the student to be mindful of and abide by such standards. Suspected breaches of academic honesty will be investigated and charges shall be laid if reasonable and probable grounds exist.

Students should review the York Academic Honesty policy for themselves at:

<https://secretariat-policies.info.yorku.ca/policies/academic-honest-senate-policy-on/>

Students might also wish to review the interactive on-line Tutorial for students on academic integrity, at: <https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/>

Grading Scheme and Feedback Policy: The grading scheme (i.e. kinds and weights of assignments, essays, exams, etc.) shall be announced, and be available in writing, within the first two weeks of class, and, under normal circumstances, graded feedback worth at least 15% of the final grade for Fall, Winter or Summer Term, and 30% for ‘full year’ courses offered in the Fall/Winter Term be received by students in all courses prior to the final withdrawal date from a course without receiving a grade, with the following exceptions:

Note: Under unusual and/or unforeseeable circumstances which disrupt the academic norm, instructors are expected to provide grading schemes and academic feedback in the spirit of these regulations, as soon as possible. For more information on the Grading Scheme and Feedback Policy, please visit: <https://secretariat-policies.info.yorku.ca/policies/grading-scheme-and-feedback-policy/>

In-Class Tests and Exams - the 20% Rule: For all Undergraduate courses, except those which regularly meet on Friday evening or on a weekend, tests or exams worth more than 20% will not be held in the two weeks prior to the beginning of the official examination period. For further information on the 20% Rule, please visit: <https://www.yorku.ca/secretariat/policies/policies/limits-on-the-worth-of-examinations-in-the-final-classes-of-a-term-policy/>

Reappraisals: Students may, with sufficient academic grounds, request that a final grade in a course be reappraised (which may mean the review of specific pieces of tangible work). Non-academic grounds are not relevant for grade reappraisals; in such cases, students are advised to petition to their home Faculty. Students are normally expected to first contact the course director to discuss the grade received and to request that their tangible work be reviewed. Tangible work may include written, graphic, digitized, modeled, video recording or audio recording formats, but not oral work. Students need to be aware that a request for a grade reappraisal may result in the original grade being raised, lowered or confirmed. For reappraisal procedures and information, please visit the Office of the Registrar site at: <http://myacademicrecord.students.yorku.ca/grade-reappraisal-policy>

Accommodation Procedures: LA&PS students who have experienced a misfortune or who are too ill to attend the final examination in an ADMS course should not attempt to do so; they must pursue deferred standing. Other students should contact their home Faculty for information. For further information, please visit: <http://ds.info.yorku.ca/academic-support-accomodations/>

Religious Accommodation: York University is committed to respecting the religious beliefs and practices of all members of the community and making accommodations for observances of special significance to adherents. For more information on religious accommodation, please visit: <https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/wa/regobs>

Academic Accommodation for Students with Disabilities (Senate Policy)

The nature and extent of accommodations shall be consistent with and supportive of the integrity of the curriculum and of the academic standards of programs or courses. Provided that students have given sufficient notice about their accommodation needs, instructors shall take reasonable steps to accommodate these needs in a manner consistent with the guidelines established hereunder. For more information, please visit the Student Accessibility Services (formerly known as Counselling and Disability Services) website at <https://accessibility.students.yorku.ca/>

York's disabilities offices and the Registrar's Office work in partnership to support alternate exam and test accommodation services for students with disabilities at the Keele campus. For more information on alternate exams and tests please visit <http://www.yorku.ca/altexams/>

Please alert the Course Director as soon as possible should you require special accommodations.