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| YORK UNIVERSITYSchool of Administrative StudiesAP/ADMS 3330 3.0 Introduction to Management Science Winter 2021 – Section O\*VIRTUAL Day: MONDAY \*VIRTUAL Time: 4:00 – 7:00 pm Location: Online Instructor: Malcolm MacTaggart Email: malcolmm@yorku.caOffice hours: See virtual office hours on Page 3 |
| **Required Textbook:**Anderson, Sweeney, Williams, Camm and Martin 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. The e-book offers substantial savings over the full text (last 6 months) and can be purchased here: http://www.nelsonbrain.com/shop/search/9781305947412 Supporting material will be posted on the web or provided in class. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\**Virtual time and day are for your planning purposes only. You can view the digital (Audio recorded) lectures at ANY time during the week as your schedule allows.* **Online Course Requirement: This course requires stable internet connection (no exceptions) and may require the use of a webcam.**  |
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| **Lecture** | **Date** | **Topics** | **Readings** |
| 1  | Jan 11 | Introduction to OptimizationLP Graphical Method | Ch 2 |
| 2  | Jan 18 | LP Sensitivity Analysis | Ch 3 |
| 3  | Jan 25 | Building Spreadsheet Models | App A (Test 1; Lec 1-3) |
| 4  | Feb 1 | LP Applications (1) | Ch 4  |
| 5 | Feb 8 | LP Applications (2) | Ch 5  |
|  | Feb 15 | **READING WEEK – NO CLASS** |  |
| 5 | Feb 22 | LP Applications (2) | Ch 5  |
|  6 | Mar 1 | Multicriteria Decisions | Ch 14 |
| 7 | **Sunday Mar 7** | **MIDTERM (2.5 hours); 2- 4:30 pm** | **Chapters 2-5, 14** |
| 8 | Mar 8 | Integer LP & 0-1 Variables | Ch 7 |
| 9  | Mar 15 | Distribution and Network Models | Ch 6 |
| 10 | Mar 22 | Nonlinear Optimization Models | Ch 8 (Test 2; Lec 8-10) |
| 11 | Mar 29 | Simulation | Ch 12  |
| 12 | Apr 5 | Time Series Analysis and Forecasting | Ch 15  |
| **MARKING SCHEME:** |  |
| Term Test 1 | 10% |
| Midterm | 30% |
| Term Test 2 | 10% |
| Final Exam | 50% |
| Total | 100% |

**Course Objectives & 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 in finance, marketing and production/operations management as mathematical models, but also provides them with spreadsheet skills to solve mathematical models. The course also focuses on theories on basic optimization and decision making techniques, such as the simplex method, duality theory and game theory. Prerequisite: AP/ADMS 2320 3.00. Course credit exclusion: AP/ADMB 3330 3.00.

**General Policy**

1. **WARNING: Distribution or uploading of course content is STRICTLY PROHIBITIVE. All material is copywrite protected.**
2. **You are NOT allowed to take pictures or record (audio or video) any content of the lecture.**
3. Please ensure you read all documentation on the course website.
4. Please note that this is now a remote teaching online course. The entire course, including the lectures, participation/discussion and test/exam-taking, will take place on the course website.
	1. the recordings should be used for educational purposes only and as a means for enhancing accessibility.
	2. students **do not** have permission to duplicate, copy and/or distribute the recordings outside of the class (these acts can violate not only copyright laws but also FIPPA).
	3. all recordings will be deleted after the end of classes.
5. It will be your responsibility to regularly check online posts and your email.
6. This course **might** require the use of online proctoring for examinations. The instructor may use an online proctoring service to deliver the exam(s), which would be administered through the Learning Management System (e.g. Moodle, Canvas, etc.). Students are required to have access to minimum technology requirements to complete examinations. If an online proctoring service is used, students will need to become familiar with it at least five days before exam(s). For technology requirements, Frequently Asked Questions (FAQs) and details about the online proctoring service will be made available if used. Students are required to share any IT accommodation needs with the instructor as soon as they are able.
7. Several platforms will be used in this course (e.g., Moodle, Canvas, Zoom, etc.) through which students will interact with the course materials, the course director / TA, as well as with one another. Please review the syllabus to determine how the class meets (in whole or in part), and how office hours and presentations will be conducted.

Students shall note the following:

* Zoom is hosted on servers in the U.S. This includes recordings done through Zoom.
* If you have privacy concerns about your data, provide only your first name or a nickname when you join a session.
* The system is configured in a way that all participants are automatically notified when a session is being recorded. In other words, a session cannot be recorded without you knowing about it.

Technology requirements and FAQs for Moodle can be found here - http://www.yorku.ca/moodle/students/faq/index.html

**Term Tests and Final Exam Policies**

1. The two Term Tests, will be ‘take home’ tests. You will have 3-5 days to complete them, but can only attempt them once, but have the flexibility as to when you want to begin the test.
2. The Midterm and the Final Examination will be held **online** on Moodle at the same time for all students unless the University commences operations and can hold exams on campus. In the event the University commences operations, the exams will be shifted to on-campus exams.
3. Information concerning the Term Tests and Final Exams will be posted on the course website.
4. The Term Tests, Midterm and the Final Examination will be all open book exams.
5. The Tests and Exams will be finished by students individually. Students may not receive assistance or coaching from other individuals while writing any test or the exam.
6. Both Term Tests, Midterm and the Final Examination may consist of multiple choice questions and worded questions.
7. If a Term Test or Midterm is missed, the weight of one, and only one, will be automatically (no documents such as doctor notes needed) transferred to the Final Examination.
8. The Final Examination will be comprehensive if any one of the Term Tests or Midterm is missed. That is, if a student misses one Term Test or Midterm, he/she will be writing a Final Examination that includes material from the entire semester.
9. **There are no alternative exam dates for the Midterm or adjustment to Term Test due dates.**
10. If students miss the Final Examination and have to defer the exam, the deferred exam will be a cumulative examination.
11. Grades usually will be posted in a week after a test is written. From then on, students have one week of time to discuss their grades with the instructor if they wish. Concerns regarding marks will not be accepted after one week from grade posting.
12. The Final Examination grades will not be posted by the instructor. Instead, students should check their overall grades from York official website under their personal accounts some time after the Final Examination.

**Digital Tutorials:**

 **More information will be posted on the course website.**

**Technical requirements for taking the course:**

* Student who are enrolled in this course must have access to a laptop or desktop computer with a camera and microphone and/or a smart device with these features.
* ***Students must also have a stable Internet connection, or they should not be taking the course.***
To determine Internet connection and speed, there are many tools available online or from your ISP.
* During test/exam it may be asked to turn on camera for confirmation of identity.

**Virtual office hours:**

Please send your questions via email. All questions will be answered within 24 to 48 hours’ time. A one-on-one Zoom meeting may be set up depending on the nature of the question. Please note that emails from public email providers such as Gmail and Hotmail might be screened. It is best to use your York email account for this course.

**RELEVANT UNIVERSITY/LA&PS/SCHOOL REGULATIONS**

**Applicable to all ADMS and DEMS courses**

**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>

Any request for deferred standing on medical grounds must include an Attending Physician's Statement form; a “Doctor’s Note” will not be accepted.

DSA Form: <http://www.registrar.yorku.ca/pdf/deferred_standing_agreement.pdf>

Attending Physician's Statement form: <http://registrar.yorku.ca/pdf/attending-physicians-statement.pdf>

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

[**http://sas-app.laps.yorku.ca**](http://sas-app.laps.yorku.ca)

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.  **During this time of remote learning, you will be required to submit the forms via email to** **apsas@yorku.ca****.**  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).

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.

 **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:

<http://www.yorku.ca/secretariat/policies/document.php?document=69>

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: <http://www.yorku.ca/univsec/policies/document.php?document=86>

**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: <http://secretariat-policies.info.yorku.ca/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](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.