

YORK UNIVERSITY
School of Administrative Studies
Fall 2020, AP/ADMS 3345 Section A
System Thinking and Modeling for Management

Course Director: Shamim Abdullah **Email:** sabdulla@yorku.ca

Time: Wednesday, 4:00pm – 7:00pm

Location: Remote delivery, Virtual Classroom

Office Hours: Please send your questions via email; they will be answered within 24-48 hours. In certain cases, Zoom meetings may be arranged to address more complicated questions.

Course Description:

Introduces system dynamics, a dynamic modeling and simulation based study of managerial problems. Focuses on the construction and application of qualitative causal loop diagrams and quantitative simulation models of dynamic decision making to better manage the business enterprises.

Prerequisites:

AP/ADMS 2320 3.00 or (AP/ECON 2500 3.00 and AP/ECON 3480 3.00). PRIOR TO FALL 2009:
AK/ADMS 2320 3.00 or AK/ADMS 3320 3.00 (prior to Summer 2005) or (AK/ECON 3470 3.00 and AK/ECON 3480 3.00). Course credit exclusion: AK/ADMS 3345 3.00

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

Required Textbook:

Business Dynamics: Systems Thinking and Modeling for a Complex World”
(J. Sterman), McGraw Hill, 2000.

Photocopying more than 10% of copyrighted material is illegal, and may involve penalties. Do not duplicate textbook, course kits or any copyrighted material used in this course or obtain photocopies.

Marking Scheme:

3 Quizzes	21%
2 Assignments (Individual/Group work)	14%
Class participation & Project Presentation/ participation	20%
Final Project	45 %
Total	100 %

Technical requirements for taking the course:

- Students 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 who are enrolled in this course will be expected to use ZOOM software to attend lectures.
- ***Students must also have a stable Internet connection, or they will be facing significant challenges throughout the course.***
To determine Internet connection and speed, there are many tools available online or from your ISP.
- During test/exam students may be asked to turn on camera for confirmation of identity.
- Here are some useful links for student computing information, resources and help:
 - [Student Guide to Moodle](#)
 - [Zoom@YorkU Best Practices](#)
 - [Zoom@YorkU User Reference Guide](#)
 - [Computing for Students Website](#)
 - [Student Guide to eLearning at York University](#)

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](#).

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 quizzes, submit Assignments, unless they are on the class list.
4. Due to unavoidable circumstances if any lecture is missed due to technical reason, date for make-up lecture will be announced on course web site.
5. Please ensure you read all documentation on the course Moodle site.
6. It is your responsibility to visit course Moodle site on a regular basis.
7. Due to high volume of emails during remote learning, 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.
8. Please note that this is now a remote teaching online course. The entire course, including the lectures, participation/discussion and Quizzes/Assignments submission, presentation, will take place on the course website on Moodle.
 - the recordings should be used for educational purposes only and as a means for enhancing accessibility;
 - 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](#));
 - all recordings will be destroyed after the end of classes.
9. For some common language about academic integrity, and the online tools used to promote it, please see the text in blue font above.

10. 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.
11. 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>”

*While all individuals are expected to satisfy the requirements of their program of study and to aspire to achieve excellence, the university recognizes that persons with disabilities may require reasonable accommodation to enable them to perform at their best. The university encourages students with disabilities to register with **Student Accessibility Services** to discuss their accommodation needs as early as possible in the term to establish the recommended academic accommodations that will be communicated to Course Directors as necessary. **Please let me know as early as possible in the term if you anticipate requiring academic accommodation so that we can discuss how to consider your accommodation needs within the context of this course.***

Students registered with Student Accessibility Services are instructed to deliver the letter of accommodation to each of their course directors via email within the first two weeks of class.

Quizzes, Assignments and Project Policies

1. All quizzes will be done **online**.
2. Information concerning the Quizzes will be posted on course Moodle site.
3. There are **3** Quizzes, dates of which are given in the schedule below. Quizzes will be taken online using Moodle, and will be at the beginning of the class it is scheduled in. Quizzes will be in two parts multiple choice and descriptive questions. For multiple choice type question, each question at least 1.5 minutes on average will be given. **No makeups will be available for the Quiz.**
4. **There are no alternative date and times for project presentation.**
5. Due to concerns regarding copyright issues, online tests (Quizzes/Assignments) are treated as purely **assessment tools**.
6. Once you start any Quiz Component you are digitally signed for that Quiz components. If you quit after starting a Quiz, then whatever you attempted will be marked and will be in your record.
7. If you need religious accommodations, please follow the York University policy/procedure and once approved, update your professor at least 72 hours prior to the testing component.
8. Quizzes, Assignments and Project Presentation will all be online. For the Quiz, you might need to upload on the Moodle site a scan or photo of your work as required for the question/s. (Note: When the allotted time is over, Moodle will automatically submit whatever work/files you have uploaded. You do not have to send an email to your professor asking to check whether or not your work/files have been uploaded. It is your responsibility to ensure they are uploaded properly within the time provided. Such email inquiries will NOT be answered.)
9. Due to strict copyright rules Quiz cannot be reviewed online. If you want to, you can apply for re-appraisal, and your professor will re-appraise it and update you of the outcome.
10. While taking your Quizzes, the multiple choice types questions will be provided to you in a sequential manner. You will be asked to answer a question and submit your answer, and then move on to the next question. After you submit your answer to a question, there will be no further access to that question in the quiz.
11. Projects should be submitted online. Project Presentation required, No deferral. Will discuss further detail about this in class.

Assignments

1. Assignments must include a cover sheet signed by student. Assignments that do not include the digitally/signed cover sheet will not be accepted. The cover sheet will be provided. Cheating will result in zero for all involved students and necessary disciplinary measures outlined in the Senate Policy on Academic Honesty will be applied.
2. Please be advised that Assignments are due on the day and time designated in the Assignment. Late Assignments will **NOT** be accepted and no extensions will be granted.
3. Assignments must be TYPED, if you need to draw graph, chart, diagram it must be done by using computer. Hand written/drawn part of Assignments will NOT be considered for marking. Assignments need to submit Online, only “doc/x” or “pdf” formats of files acceptable.
4. **Turnitin** : To promote academic integrity in this course, students will be normally required to submit their written assignments to Turnitin (via the course Moodle) for a review of textual similarity and the detection of possible plagiarism. In so doing, students will allow their material to be included as source documents in the Turnitin.com reference database, where they will be used only for the purpose of detecting plagiarism. The terms that apply to the University’s use of the Turnitin service are described on the Turnitin.com website.
5. Assignments must be done on an individual/group basis.
6. Online Submission of Assignments will be marked online, and the results will be posted on your course’s Moodle site.
7. There will be no deferrals for the Assignments; if you didn’t submit on time and missed then you lost the marks.
8. **EMAIL HAND-IN WILL NOT BE ACCEPTED. LATE or NON-TYPED Assignments will NOT be accepted under any circumstance.**
9. Further instructions and requirements and How to submit? Details will be provided with the Assignment.

Course Schedule:

On the first lecture scheduled below I will hold a ZOOM session, in this ZOOM session, I will discuss the course outline and the mechanics of how the course will be conducted.

After the first week, the related material such as audio/video lecture files and/or lecture notes for each online class scheduled below will be posted on the Moodle site. Students are expected to go over the audio/video files, read the chapter(s) and go over the lecture notes before the scheduled class time. During the class time, if you are scheduled to take a quiz, you will have your quiz online. There will be NO synchronous ZOOM classes for each session, chapters involved calculations, I might schedule Zoom meeting. Details of Zoom meetings will be posted on our Moodle site “Announcements” section.

Course Schedule (continued ...):

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

Session	Date	Topic	Readings
1	Sep 09	Perspectives and Process Learning about Complex Systems: What is Systems Thinking? What is a dynamic decision problem? Difficulty in Dynamic Decision Problems	Chapter 1
2	Sep 16	Application of System Dynamics Why simulation is Essential?	Chapter 2
3	Sep 23	The Purpose of Modeling: Modeling Process Structure and Behavior of dynamic System Fundamental modes and Interaction	Chapter 3 Chapter 4*
4	Sep 30	Tools for Systems Thinking Causal Loop diagrams Notations, Guidelines, and Developing CLD	Chapter 5 Quiz -1
5	Oct 07	Stock and Flow Accumulation, Identifying and Mapping	Chapter 6
	Oct 14	No-Class Reading Week	
6	Oct 21	Stock and Flow (continued) Understanding of modeling Software	Chapter 6 TBA
7	Oct 28	Modeling using software Numerical Integration Technique Dynamics of Stocks and Flows Simulation Practice	App-A Chapter 7* Assignment-1
8	Nov 04	Dynamics of Simple Structures Simulation Practice	Chapter 8*
9	Nov 11	The dynamics of Growth Modeling S-shaped Growth Simulation Practice	Chapter. 9 Quiz -2
10	Nov 18	Delays : Material and Information Validation and Model Testing Simulation Practice	Chapter 11* Chapter 21*
11	Nov 25	Project Presentation – Session 1	Quiz -3 Assignment 2
12	Dec 02	Project Presentation – Session 2	
13	Dec 11	Project Submission	

* These chapters will be covered in parts and information will be provided in class.

You may need Microsoft Excel and some of the programs on the CD that comes with your text book (Sterman)
You need to use laptop for session 6 and onward for simulation.

RELEVANT UNIVERSITY/LA&PS/SCHOOL REGULATIONS

Applicable to all ADMS 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. In order to apply for deferred standing, students must register at <http://apps.eso.yorku.ca/apps/adms/deferredexams.nsf>.

Write your ticket number from the online registration system directly onto the DSA form. The DSA and supporting documentation must be submitted no later than five (5) business days from the date of the exam and emailed to apsas@yorku.ca.

These requests will be considered on their merit and decisions will be made on a case by case basis. Decisions will be made available by logging into the following link: <http://apps.eso.yorku.ca/apps/adms/deferredexams.nsf>.

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.

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 midterm.

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-accommodations/>

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.