

Decision Analysis

AP/ADMS 3300 Section A FALL 2026

Course Information

Course Instructor: Humayun Chaudhary
Course Days: Mondays
Office Hours & Location:
By Appointment.

E-mail: hrc@yorku.ca
Course Time: 2:30 pm - 5:20 pm
Class Location: DB 005
Test/Exam: On Keele Campus

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

Prerequisite

AP/ADMS 2320 3.0 or AK/ADMS 3320 3.0 (prior to Summer 2005)

Land Acknowledgment

York University recognizes that many Indigenous Nations have longstanding relationships with the territories upon which York University campuses are located that precede the establishment of York University. York University acknowledges its presence on the traditional territory of many Indigenous Nations. The area known as Tkaronto has been care taken by the Anishinabek Nation, the Haudenosaunee Confederacy, and the Huron-Wendat. It is now home to many First Nation, Inuit, and Métis communities. We acknowledge the current treaty holders, the Mississaugas of the Credit First Nation. This territory is subject of the Dish with One Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region ([LA&PS Land Acknowledgement](#)).

Tutorials

Further information will be posted on the course eClass site.

Course Overview

Course Description

An introduction to decision analysis under conditions of certainty, uncertainty, risk and competition. Both single person and group decision making are covered. Problems from many areas of managerial decision making are considered.

Course Learning Objectives

By the end of this course, students will be able to:

- Decision Analysis theory, tools, and techniques in real-world scenarios
- Structure the problem, model the decisions, and develop both influence diagrams and decision trees as graphical modelling tools for representing the structure of decisions.
- Analyze and model single and multiple-objective decision situations.
- How to use sensitivity-analysis tools in concert with EMV calculations in the iterative decision-structuring and analysis process.
- Model uncertainty through the use of probability
- Gain an in-depth understanding of risk and utility theory.
- Model preferences in situations in which the decision maker has multiple and conflicting objectives.

Course Format and Organization

All classes will be held on campus. During the lecture, material will be covered as described in the course schedule.

Technical Requirements/Restrictions

- Students are required to have access to a non-programmable calculator.
- ***When class sessions are conducted in person, 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.

Course Communication Plan and Office Hours

Communication in the course will occur during lectures and through announcements and postings on the course website. If you have course-related questions, you can use email to send inquiries or ask during class sessions.

1. Please ensure you read all documentation on the course website.
2. It will be your responsibility to check online posts and your email regularly.

Office hours will be held by appointment.

Course Evaluation

Assessment	Due Date	Weight %	Course Learning Outcome
Term Test - 1	See Course Schedule	25%	Assessment of knowledge pertaining to specific lectures.
Term Test - 2	See Course Schedule	25%	Assessment of knowledge pertaining to specific lectures.
Final Exam	See Course Schedule	50%	Assessment of knowledge pertaining to specific lectures.
		100%	

Assessment Descriptions

1. There will be two tests within the term (Term Test I and Term Test II) and a Final Exam, which are all planned to be conducted in person, in examination rooms to be designated by the Registrar's Office, on dates/times as specified in the Course Schedule.
2. Both term tests and the final examination will consist of multiple-choice questions and questions/problems requiring complete answers/solutions. A formula sheet will be provided, as may be necessary.
3. The format/mode of administration of each Term Test and the Final Exam will be announced before the test/exam.
4. If you miss any term test, the weight of **one and only one** missed test (25%) may be transferred to the final examination **provided that proper documentation is submitted to, and accepted by, the course director**. As stated in the [Senate Policy on Academic Consideration for Missed Course Work](#), the following extenuating circumstances qualify for students' requests for academic consideration (in this case, transfer to the final examination of the weight of a missed test): (i) a short-term health condition such as illness, physical injury, or scheduled surgery; (ii) bereavement of an immediate family member; and/or (iii) an unforeseen or unavoidable incident beyond a student's control that precludes a student from meeting their academic obligations. In the case of illness, physical injury, or scheduled surgery, an Attending Physician's Statement (APS; <https://secure.students.yorku.ca/pdf/attending-physicians-statement.pdf>) will need to be submitted by the student. An APS is typically required to be completed within 48 hours of a missed term test. Documentation in support of extenuating

circumstances shall be submitted to the course director no later than five (5) business days following the missed test.

5. If you have written BOTH Term Test I and Term Test II, the final exam will be non-cumulative. If you miss Term Test I or Term Test II (or both) in view of extenuating circumstances and submit appropriate documentation (in line with point 4 above), the course director may approve your writing a comprehensive final exam with 75% weight (with the transfer of 25% weight of one term test).
6. 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 towards your grade calculations. (If no work is completed, a mark of zero will be assigned.)
7. During each test/exam, students **must not** use smart phones, smart watches, smart eyewear/eyeglasses, or any similar electronic devices that are capable of capturing/recording/broadcasting images of the exam or any part thereof. If you are wearing prescription eyeglasses and they are smart/digital eyeglasses, then you must make sure that you have an alternate pair of non-digital eyeglasses, as you will not be allowed to write a test/exam while wearing smart/digital eyeglasses. *Any attempt to capture/transmit exam materials in any form will be treated as a violation of the Senate Policy on Academic Honesty and will be subject to disciplinary action.*
8. If a student misses the Final Examination and applies for and is granted deferred standing, the deferred exam will be a comprehensive examination.
9. Feedback regarding term tests will be given to students as explained in the following two points.
10. Due to strict copyright rules, MCQs, if included in the testing components, will not be reviewed. Concerns regarding marks on, and requests for reappraisal of, term tests will only be entertained within five regular school days following the class session in which the test results/marks are returned/released.
11. After receiving the Term Test results/marks, you may submit a request to your professor for reappraisal. Your complete work on the test will be re-marked, and there will be three possible results: Marks may (1) remain the same, (2) increase, or (3) decrease. Reappraisal marks will accordingly replace your previously recorded marks.

- 12.If you need religious accommodations, please follow the York University policy/procedure and once approved, update your professor at least 96 hours before the testing component.
- 13.Should any Term Test/Final Exam component/s need to be conducted online, details will be posted on eClass.
- 14.[There are no alternative test dates and times for the Term Tests](#)

Missed Tests and Exams – See above.

General Course Policy

1. **WARNING: Distribution or uploading of course content is STRICTLY PROHIBITED. All material is copyright protected.**
2. **You are NOT allowed to take pictures or record any content of lectures in the classroom.**
3. Please ensure you access and read all information/documentation on the course eClass site.
4. It is your responsibility to visit the course eClass site regularly.
5. If any lecture session is missed due to unavoidable circumstances (e.g., inclement weather), a date for a make-up lecture will be announced on the eClass site.
6. In case of a fire alarm during an in-person class session (in the classroom), students are to get up instantly, collect their personal belongings, and leave the building. (You should not wait for someone to tell you to do so.)
7. 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.
8. Concerns regarding marks on term tests **will not be entertained after five days** following the return/release of the test results/marks.
9. If you have a query about the problems/questions discussed in any tutorial session, please communicate directly with the tutor. If you are not satisfied with your tutor's reply, then contact your course director.

Grading

The grading scheme for this course conforms to the 9-point system used in undergraduate programs at York University. For a full description of the York grading system, visit the York University [Academic Calendar](#).

Course Schedule: Weekly Readings and Activities

Required Course Materials

Clemen, R. and T. Reilly, Making Hard Decisions with Decision Tools, Duxbury, 3rd Edition, 2014.

The cost of the textbook is \$235.95; there are options available to get access to the online version of the textbook at a lower price.

Optional Materials

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

Course Schedule

The following tentative course outline (all inclusive) is subject to "in class" changes as considered necessary by the Course Director.

Session	Date	Topic	Chapters
1	Sep 14	Introduction; Elements of Decision Problems	Chapter 1 Chapter 2
2	Sep 21	Structuring Decision Problems Decision Trees and Influence Diagrams	Chapter 3
3	Sep 28	Making Choices	Chapter 4
4	Oct 5	Model Building and Sensitivity Analysis	Chapter 5
	Oct 12	No Class – Reading Week	
	October 18 SUNDAY	Term Test I at 3:00 pm – 5:00 pm Location: TBA, Details: TBA	Chapters 1,2,3, and 4
5	Oct 19	Uncertainty and Preference Modelling Subjective Probability	Chapter 8
6	Oct 26	Probability Basics and Bayesian Statistics Value of Information	Chapter 7 Chapter 12
7	Nov 2	Value of Information	Chapter 12
8	Nov 9	Utility Theory Risk Attitudes, Utility Axioms and Paradoxes	Chapter 14 Chapter 15
	November 15 SUNDAY	Term Test II at 3:00 pm – 5:00 pm Location: TBA, Details: TBA	Chapters 5, 7, 8 and 12
9	Nov 16	Dealing with Conflicting Objectives-I	Chapter 16
10	Nov 23	Dealing with Conflicting Objectives- I	Chapter 16
11	Nov 30	Dealing with Conflicting Objectives II	Chapter 17

Common Final Examination**

(December 10-23) (Date and time to be announced on registrar's/university website)

* If the student wrote both term tests, final exam coverage will be Chapters 14, 15, 16 and 17. If the student missed Term Test I or Term Test II (or both) in view of extenuating circumstances and submitted appropriate documentation (in line with point 4 above), the course director may approve the student's writing a comprehensive final exam with 75% weight (with the transfer of 25% weight of one term test).

Latest Academic Conduct Policy and Procedures

<https://www.yorku.ca/secretariat/policies/policies/academic-conduct-policy-and-procedures/>

Course Policies

All students are expected to familiarize themselves with the following information:

- [Common University and Course Policies](#) (deferred exams, 20% rule, etc)
- [Student Rights & Responsibilities](#)
- [Academic Accommodation for Students with Disabilities](#)
- [University and School Policies](#)

Please also review the following course policies:

Academic Integrity and Conduct

Academic integrity is a fundamental and important value of York University. To maintain a fair and honest learning environment, you are responsible for understanding and upholding academic integrity in all courses and academic activities. You are encouraged to connect with reliable [on-campus resources](#) that support your coursework and academic honesty. To better understand the serious consequences of breaching academic honesty policies, familiarize yourself with the [Senate Policy on Academic Conduct](#). You can learn more about upholding academic integrity in your courses by exploring [SPARK: Academic Integrity Module](#), [LA&PS Academic Honesty](#) and [Academic Integrity for Students](#).

Generative Artificial Intelligence (GenAI)

Students are not permitted to use generative artificial intelligence (AI) in this course. Submitting any work created (in whole or part) through the use of generative AI tools will be considered a violation of York University's [Senate Policy on Academic Conduct](#). Using AI apps such as Microsoft Copilot, ChatGPT, DALL-E, translation software among others to complete academic work **without your instructor's knowledge or permission**, is considered a breach under York's Academic Conduct Policy. For more information, please review [AI Technology & Academic Integrity: Information for Students](#).

If you're not sure whether using an AI app for your academic work is acceptable, it is recommended that you:

- Carefully review the guidelines for your assessments
- Check for any messages from your instructor on eClass
- Ask your instructor or TA if they are permitting the use of these tools

Turnitin

To promote academic integrity in this course, you will normally be required to submit your written assignments to Turnitin (on the course's eClass site) for a review of textual similarities and the detection of possible plagiarism. In doing so, you are allowing your 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](#). York students may opt out of using Turnitin. If you wish to opt out, you should contact your instructor as soon as possible.

Accessibility

York University is committed to creating a learning environment which provides equal opportunity to all members of its community. If you anticipate or experience any barriers to learning in this course, please discuss your concerns with your instructor as early as possible. For students with disabilities, contact [Student Accessibility Services](#) to coordinate academic accommodations and services. Accommodations will be communicated to Course Directors through a Letter of Accommodation (LOA). Accommodations for tests/exams normally require three (3) weeks (or 21 days) before the scheduled test/exam to arrange. To learn more, please visit [Accommodated Exam/Test Scheduling](#).

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community and making reasonable and appropriate [accommodations to adherents for observances of days of religious significance](#). Should any of the dates specified in this syllabus for course assignments, tests, or deadlines conflict with a date of religious significance, please contact the instructor not less than two (2) weeks (or 14 days) prior to the date for which accommodation is sought. If the requested accommodation is for an exam or falls within the formal examination periods, you must complete and submit a [Religious Accommodation Agreement \(PDF\)](#) at least three (3) weeks (or 21 days) before the start of the exam period.

Academic Consideration for Missed Course Work

This policy applies to course assessments worth 20% or less of your overall course grade and does not apply to exams held during the final examination period. Students may self-declare two (2) 7-day consideration periods each 12-week term and one (1) 7-day consideration period per six-week term. An Attending Physician's Statement (APS) is not required for these self-declared absences. However, an instructor may request a signed APS for the final examination period, coursework worth more than 20% of the course grade and missed work outside of the self-declared academic consideration period(s).

Students can submit their self-declaration(s) for academic consideration [using eClass](#). Students are then responsible for contacting the instructor no later than two (2) business days after the end of the consideration period(s) to arrange details of any accommodation for missed coursework. If you do not do this, you may get a zero (0) on the missed work. Where courses have built-in accommodations already established, the instructor may decline providing additional accommodations under this policy. For further details, please review the [Policy on Academic Consideration for Missed Course Work](#).

Final Examination Identification Policy

For final exams in this course, you must present a valid York University official photo identification card ([YU-card](#)) to verify your identity. Also, you will need to sign the exam's attendance roster. Learn more about preparing for your exams by reviewing York's Policies on [Conduct of Examinations](#) as well as the Registrar's Office [Examination Tip Sheet](#).

Intellectual Property

Course materials are designed for use as part of this particular course at York University and are the intellectual property of the instructor unless otherwise stated. Third-party copyrighted materials (such as book chapters, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian copyright law. Students may not publish, post on an Internet site, sell, or otherwise distribute any course materials or work without the instructor's express permission. Course materials should only be used by students enrolled in this course.

Copying this material for distribution (e.g., uploading material to a commercial third-party website) may lead to a charge of misconduct according to York's [Code of Student Rights and Responsibilities](#), the [Senate Policy on Academic Conduct](#), and/or legal consequences for copyright violations.

Student Support and Resources

York University offers a wide range of student supports resources and services, including everything from writing workshops and peer mentorship to wellness support and career guidance. Explore the links below to access these on-campus resources:

- [Academic Advising](#) is available to provide students support and guidance in making academic decisions and goals.
- [Student Accessibility Services](#) are available for support and accessibility accommodation when required.
- [Student Counselling, Health & Wellbeing](#) offers workshops, resources and counselling to support your personal wellness and academic success.

- [Peer-Assisted Study Sessions \(PASS\) Program](#) provides free study sessions where students collaborate and enhance their understanding of course content in select courses.
- [Student Numeracy Assistance Centre at Keele \(SNACK\)](#) supports students in courses involving math, statistics, coding and Excel.
- [The Writing Centre](#) provides multiple avenues of writing-based support including drop-in sessions, one-to-one appointments, a Multilingual Studio and an Accessibility Specialist.
- [Centre for Indigenous Student Services](#) offers a community space with academic, spiritual, cultural and physical support, including writing and learning skills programs.
- [ESL Open Learning Centre \(OLC\)](#) supports students with building proficiency in reading, writing and speaking English.
- [Learning Skills Services](#) offers workshops, resources and tips on learning-related topics like time management, note-taking, studying and exam prep.
- [Learning Commons](#) links to supports for writing, learning skills, career development, exam preparation and other learning-related resources.
- [Roadmap to Student Success](#) is a collection of timely and targeted resources to help students achieve academic, personal and professional success at different stages of their university journey.
- [Office of Student Community Relations \(OSCR\)](#) is responsible for administering the [Code of Student Rights & Responsibilities](#) and provides critical incident and conflict resolution support.
- [Peer Mentorship](#) helps students transition through their first year by connecting them with upper-year students. The mentors can help students find supports and resources. They also lead a community hub on campus.
- [goSAFE](#) is staffed by York students and can accompany York community members to and from any on-campus location, such as the Village Shuttle pick-up hub, parking lots, bus stops or residences.

For a full list of academic, wellness and campus resources visit [Student Support & Resources](#).

Deferred Standing

Deferred standing may be granted to students who are unable to write their FINAL examination at the scheduled time (due to illness or other extenuating circumstances) or who are unable to submit their outstanding course work by the end of the term.

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

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.

To be clear, deferred exams in this course will be cumulative exams.

If you are unable to write a final exam at the scheduled time - due to illness, a personal or family emergency, or religious commitment - you can ask to write the final exam at a later date, as arranged by the main office for ADMS and DEMS courses. Depending on the circumstances, you may be asked to provide supporting documentation.

Your request must be received by the office within 7 days of the date of the final examination for which you are asking for a deferred standing.

Please note that a new system has been implemented to facilitate the processing of Deferred Standing Agreement Forms.

To request a deferral of your final exam in ADMS or DEMS, follow the steps below. If you do not see your course code listed, please contact the department where your course is offered.

1. Download and complete the [Final Exam / Assignment Deferred Standing Agreement \(DSA\) form](#).
2. Gather any relevant supporting documentation, scan them, and keep the paper copies for your records. Health issues will require an Attending Physician's Statement ([APS Form](#)).
3. Log in to the [Deferred Exam Request system](#) using your Passport York and complete the online form.
4. Upon completion of the online form, the system will issue a ticket number. Record the number at the TOP RIGHT corner of your DSA Form you've completed in Step 1.;
5. Submit the completed form and scanned supporting documentation to the School of Administrative Studies by emailing apsas@yorku.ca to request approval for deferred standing. Please ensure to keep a copy for yourself.
6. Log in to the [online system](#) to check the status of your request as well as the location, date and time of the exam.
7. 48 hours before the scheduled exam check the [School of Administrative Studies DSA system](#) to confirm the location, time and date of your deferred exam. We also encourage you to check the DSA system again on the day of your exam for any last-minute changes.