

Disaster Risk Management

AP/ADMS // DEMS 3701 – 3 CREDIT HOURS

FALL 2024

Course Information

Course Instructor: Dr. Jennifer Spinney

E-mail: jspinney@yorku.ca

Office Hours: Fridays, 10-11am on

zoom- <https://yorku.zoom.us/j/91436428680>

Course Day/Time: Wed, 4-7pm ET

Class Location: CFA 312

Course eClass site:

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](#)).

Course Overview

Course Description

Emergency and disaster risk planning processes must include an understanding of disaster, risk and the various components related to disaster risk management (DRM), from threat recognition all the way to building resilience. This course will focus on the fundamentals of disaster risk management, including concepts related to disaster risk, threat recognition, assessing and analyzing risk, risk control, and recovering from and reducing disaster risk. Students will learn about the varying ways risk is perceived, the different measurements, tools and methods for evaluating and presenting risk, as well as strategies for managing, mitigating and preventing it. Theory will be used to explain these different aspects of disaster risk management, and case studies and visits with emergency management and related practitioners will be used to bridge theory with the concepts taught.

Pre-Requisites: N/A

Course Credit Exclusions (CCE): N/A

Course Learning Objectives

On completion of this course, students will have developed the ability to:

1. Describe the relationship between risk, vulnerability, risk reduction and resilience;
2. Evaluate disaster risk using quantitative and qualitative methods
3. Understand different ways for visually presenting risk, including the basics of creating a risk map
4. Make connections across the assessment, analysis and communication of risk, such as bridging the tools and measurements used with mapping and early warning of threat;
5. Recognize the unintended consequences of disaster risk management decisions; and
6. Conclude that successful disaster risk management requires a holistic and equity-centred approach

Course Organization

The structure of this course consists of **in-person instruction**. Each class will include a combination of lectures and group activities. Class discussions and group activities are key to learning and understanding of the material. Recent examples of environmental disasters will be used to enhance comprehension of theoretical concepts and add practical relevance to what is being taught.

This course incorporates the following teaching methods and use of technology:

- **eClass site**– This course has a page on eClass. All students who register for the course should be able to access the course page using their York Passport IDs and Passwords.
- **In-person lectures** – Lectures will serve to enrich, clarify, and illustrate critical content in assigned readings.
- **Open discussion during lectures** – Stimulating group discussions will serve to enhance student ability to articulate and defend positions and to consider different points of view.
- **Guest speakers** – Talks by academics and/or practitioners directly involved in the topics and contexts under discussion will be used to augment course content.

- **Individual & Group work** – activities and assignments will be conducted individually as well as in groups of varying sizes in order to enhance student retention and encourage the development of teamwork skills.

We will have 12 sessions throughout the term. **The first session is scheduled for Wednesday, September 4th at 4:00pm ET.** Students are expected to come to lectures having completed the relevant readings.

Instructor Office Hours and Communication Guidelines

Office hours for this course will be held each Friday, beginning September 6th until December 6th from 10:00-11:00am over [zoom](#)*. Connecting with the Instructor during office hours is an opportunity for students to ask course-related questions in a one-on-one fashion. To that end, a waiting room will be implemented and students will be met on a first-come, first-serve basis.

If students have questions throughout the term and/or they are unable to attend the designated office hours*, they are encouraged to reach out to the Course Instructor by email (jspinney@yorku.ca). **Please ensure that emails are worded professionally and include the course number (DEMS3701) in the subject line.** Emails will be answered within 24 hours.

*There will be no office hours during Fall Reading Week.

Required Course Materials

No textbook is required. All readings will be posted/made available on eClass.

Technical Requirements

Several platforms will be used in this course (e.g., eClass, Zoom, etc.) where students will interact with the course materials, the course director/TA, as well as with each other.

Here are some useful links for computing information, resources, and help:

- [Student Guide to eClass](#)
- [Zoom@YorkU Best Practices](#)
- [Zoom@YorkU User Reference Guide](#)
- [eLearning Getting Started \(LA&PS eServices\)](#)
- [Student Guide to Remote and Online Learning](#)

To determine Internet connection and speed, there are online tests, such as [Speedtest](#), that can be run. If you need technical assistance, please consult the [University Information Technology \(UIT\) Student Services](#) web page or write to askit@yorku.ca.

Course Evaluations

Course Evaluation Chart

Assessment		Due Date	Weight %	Learning Outcome
Attendance – 12 x 1%; drop lowest 2		throughout	10%	
Quizzes – multiple choice; in-class		Sept. 18	10%	1, 2
		Oct. 30	10%	2, 3
		Nov. 27	10%	4, 5
Written Response + Reflection		Oct. 27	10%	3
Major Assignment	Measuring Vulnerability, Identifying Hazards and Community Assets *individual assignment	Oct. 6	15%	2, 3
	Risk Assessment (HIRA) + Report *partner assignment	Nov. 10	20%	2, 6
	Mapping Risk and promoting Resilience *individual assignment	Dec. 6	15%	2, 3, 5
TOTAL			100%	

Assessment Descriptions

In-person attendance – 10%

In-person attendance during class is strongly encouraged. Students' attendance will be recorded across 12 sessions (Weeks 1-12). There will be no opportunity to make up the attendance grade. Each week is worth 1.0% and the lowest 2 grades will be dropped. In other words, students can miss up to 2 session during Weeks 1-12 without penalty.

Quizzes – 30%

Three (3) times throughout the term, students will complete in-person multiple choice quizzes, each worth 10% of their final grade. Quizzes will be closed-booked, non-cumulative and will include approximately 15 questions each. Quizzes will be held in the first hour of in-person sessions during Weeks 3 (September 18th), 7 (October 23rd), and Week 12 (November 27th).

**Unless a student has formal accommodation in place and/or communicates in advance of the quiz date an illness or exceptional circumstance, there will be no opportunity to make up the quiz grades.*

Written Response + Reflection – 10%

One time throughout the term, students will complete a 1000 word (+/-50 words acceptable). Written Response + Reflection that centres on answering questions related to topics and concepts covered in Weeks 4-6 of the course. Written Response + Reflection assignments are to be submitted as word documents through an Assignment portal on eClass. The Written Response + Reflection is worth 10% of students' final grade and are due at the end of Week 7 (October 27th).

Note:

** Uses of generative artificial intelligence (AI) in this course is prohibited.*

**Unless a student receives formal accommodation for illness through Academic Counselling, late Written Response + Reflection submissions will be penalized at the rate of 5%/day late for up to a total of 5 days (including weekends) following the due date. Late Written Response + Reflection submissions will not be accepted after 5 days.*

Major Assignment – 50%

Students in this course will complete one (1) major assignment that includes three (3) components:

Part	Title	Due
A	Choose hazard/disaster from Instructor list	September 4 th
B	Measuring Vulnerability, Identifying Hazards and Community Assets (individual; 15%)	October 6 th
C	Choose partner for Part D	October 13 th
D	Risk Assessment (partner; 20%)	November 10 th
E	Mapping Risk and promoting Resilience (individual; 15%)	December 6 th

Steps:

- A. Students will select a disaster from a list of flood, tornado, hurricane, winter storm, heat or wildfire events (Week 1)
- B. Working individually, each student will complete Part B and submit it as a word document through an Assignment portal on eClass by October 6th. All information related to the Part B will be posted and available on eClass by Week 3 of the course. Part B is weighted at 15% of students' final grade.
- C. By the end of Week 6 (October 13th), students will have chosen a partner who selected the same hazard/disaster in Part A/B and they will work together to create a Risk Assessment focusing on the HIRA method (Part D).
- D. **Working in groups of 2**, students will prepare a 7-page, single-spaced risk assessment for their selected/chosen disaster. Part D is to be submitted as a word document through an Assignment portal on eClass (**ONE submission per group**) by November 10th. All information related to Part D will be posted and available on eClass by Week 5 of the course. Part D is weighted at 20% of students' final grade.
- E. Finally, working as individuals, each student will create a story map in ArcGIS or QGIS that illustrates risk in the community/city of their chosen disaster and they will offer innovative solutions for how best to reduce risk and promote resilience (Part E) in that area. The submission for Part E will include a map and written content. Written content will comprise of an explanation of the map (250 words, approximately) and a description of risk reduction/resilience strategies (600 words approximately) to help prevent a similar disaster from unfolding in the future. Part E is to be submitted as a word document through an Assignment portal on eClass by December 6th. All information related to Part E will be posted and available on eClass by Week 9 or 10 of the course. Part E is weighted at 15% of students' final grade.

Note:

** Uses of generative artificial intelligence (AI) in this course is prohibited.*

**Unless a student receives formal accommodation for illness through Academic Counselling, late submissions of Part A, B and/or C will be penalized at the rate of 5%/day late for up to a total of 5 days (including weekends) following the due date. Late submissions for Parts A, B and C of the Major Assignment will not be accepted after 5 days.*

How to Use Citations in this Course

Good citation practices are important because they support academic integrity by linking information back to an identifiable source. This course will require students to use APA style formatting for citations and references for all Assignments.

Resources to help with citations:

- [I need to cite and reference, Learning Commons](#)
- [Drop-in Research Support](#), YorkU Libraries
- [Writing Centre](#)
- [SPARK Student Papers & Academic Research Kit](#)

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](#).

Grade	Grade Point	Percent Range	Description
A+	9	90-100	Exceptional
A	8	80-89	Excellent
B+	7	75-79	Very Good
B	6	70-74	Good
C+	5	65-69	Competent
C	4	60-64	Fairly Competent
D+	3	55-59	Passing
D	2	50-54	Marginally Passing
E	1	(marginally below 50%)	Marginally Failing
F	0	(below 50%)	Failing

Course Schedule

Important Dates - Explore the York University [Academic Calendar](#) to find a list of important dates, such as class start/end dates, drop deadlines, holidays and more.

Weekly Course Schedule

Date // Week		Topic & Session Learning Outcomes	Activities	Required Readings
Sept 4, 2024	1	Course Introduction Framing Disaster and Risk Interrogating the nature of hazard, vulnerability, risk and disaster	TBD	1. Course Syllabus 2. Smith & Petley (2009) “Hazards in the Environment”. In <i>Environmental Hazards: Assessing Risk and Reducing Disaster</i> . Pp. 3-21.
Sept. 11, 2024	2	Risk Perception + Threat Recognition	TBD	1. Pine (2014). Hazards Identification. In <i>Hazards Analysis: Reducing the Impact of Disasters</i> . 2 nd ed. P. 49 2. TBD
Sept. 18, 2024	3	Hazard Analysis Hazards Identification - Community profiles: human systems, economic assets, natural resources Hazard Modelling - Nature and types, examples, assessing models Hazard Profiles	TBD	1. Pine (2014). Hazards Identification. In <i>Hazards Analysis: Reducing the Impact of Disasters</i> . 2 nd ed. P. 29-48. 2. Pine (2014). Modeling Natural- and Human-Caused Hazards. In <i>Hazards Analysis: Reducing the Impact of Disasters</i> . 2 nd ed. P. 59-69, 71-73.

Sept. 25, 2024	4	Vulnerability Identifying, Measuring and Analysis - What is vulnerability and where do perceptions fit in?	TBD	<ol style="list-style-type: none"> Pine (2014). Social, Economic, and Ecological Vulnerability. In Hazards Analysis: Reducing the Impact of Disasters. 2nd ed. P. 155 – 179. Spinney and Pennesi 2013 – “When the river started underneath the land: social constructions of a ‘severe’ weather event in Pangnirtung, Nunavut, Canada. Polar Record. Vo. 49(251): 362-372.
Oct. 2, 2024	5	Risk Assessment I Intro to Risk Analysis - Process, quant/qual approaches, likelihood and consequences, historical data - Uncertainty – types and how it is visualized - Risk Assessments and visualizations in different hazard contexts: atmospheric, geomagnetic, seismic, wildfire, hydrologic	TBD	<ol style="list-style-type: none"> Shirley and Pine (2014). Risk Analysis: Assessing the Risks of Hazards. In Hazards Analysis: Reducing the Impact of Disasters. 2nd ed. P. 113-153.
Oct. 9, 2024	6	Risk Assessment II Risk Analysis Cont’d - Confidence Quantitative Risk Assessment in Ontario – HIRA	TBD	<ol style="list-style-type: none"> HIRA Guidelines (2019). Henderson et al.. (2023). "Conceptualizing Confidence: A Multi-sited Qualitative Analysis in a Severe Weather Context."

		<ul style="list-style-type: none"> - Guest visit – Ben Gallagher – Manager Emergency Management, City of Mississauga – to be confirmed <li style="text-align: center;">OR - Visit to OSPC – to be confirmed 		
October 14-18, 2024 - Fall Reading Week – no classes/no deadlines				
Oct. 23, 2024	7	Risk Assessment III Qualitative Disaster Risk Assessment <ul style="list-style-type: none"> - PAR Model (Risk Explanation) Semi-quantitative Risk Assessment <ul style="list-style-type: none"> - Community Perceptions Model 	TBD	<ol style="list-style-type: none"> 1. Wisner, B., Blaikie, P., Cannon, T. and Davis, I. (2004). “The Disaster Pressure and Release Model.” In <i>At Risk: Natural hazards, People’s Vulnerability and Disasters</i>. Second Edition. Routledge, London. Pp.49-86. 2. Agrawal, N. (2018). "Community Perceptions Model." 8.3 in <i>In Natural Disasters and Risk Management in Canada : An Introduction</i>. Springer Netherlands.
Oct. 30, 2024	8	Risk Assessment IV Mapping Risk <ul style="list-style-type: none"> - GIS Fundamentals - Getting started with mapping and visualization 	TBD	<ol style="list-style-type: none"> 1. Pine (2014). Spatial Analysis. <i>In Hazards Analysis: Reducing the Impact of Disasters</i>. 2nd ed. P. 93-112
Nov. 6, 2024	9	Risk Control I Identifying and Explaining Risk Control in the Disaster Context <ul style="list-style-type: none"> - Strategies, types, making risk control decisions, how research can help to inform decisions, 	TBD	<ol style="list-style-type: none"> 1. Thompson et al. (2014). “Lake St. Martin First Nation Community Members’ Experiences of Induced Displacement: “We’re like refugees.” <i>Refuge</i>. Vol. 29(2): 75-86.

		implications of risk control decisions		2. Doberstein, B., Fitzgibbons, J., and Mitchell, C. 2019. Protect, accommodate, retreat or avoid (PARA): Canadian community options for flood disaster risk reduction and flood resilience. <i>Natural Hazards</i> . 98: 31-50.
Nov. 13, 2024	10	Risk Control II - During prep, response, recovery, prevention/mitigation	TBD	1. TBD
Nov. 20, 2024	11	Recovering from Disaster and Reducing Risk I Social Dimensions of Recovery Planning for Resilience	TBD	1. Su and le Dé 2020 - “Whose views matter in post-disaster recovery? A case study of “build back better in Tacloban City after Typhoon Haiyan”. <i>International Journal of Disaster Risk Reduction</i> Vol. 51: 1-10. 2. Smith (2014). Planning for Sustainable and Disaster-Resilient Communities.. <i>In Hazards Analysis: Reducing the Impact of Disasters. 2nd ed.</i> P. 249-279.
Nov. 27, 2024	12	Recovering from Disaster and Reducing Risk II Equity in Disaster Risk Reduction Collaboration and Coordination with Partners - <i>Visit with Cameron Wilson (Emergency Management Ontario)</i> - <i>to be confirmed</i>	TBD	1. Ensor et al. (2019). "What is equitable resilience?: Four key elements for putting resilience into practice." Stockholm Environment Institute. Pp. 1-7. 2. Barrios (2016). “Resilience: A commentary from the vantage point of anthropology”. <i>Annals of Anthropological Practice</i> . Vol. 40(1): 28-38.

Course Policies

Please review the course policies in this section. All students are expected to familiarize themselves with the following information:

- [Student Rights & Responsibilities](#)
- [Academic Accommodation for Students with Disabilities](#)

Academic Integrity

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 [Guiding Principles for LA&PS](#) 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 ChatGPT, GPT-3, DALL-E, translation software among others to complete academic work **without your instructor's knowledge or permission**, is considered to be a breach of academic honesty. 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, students will normally be required to submit their written assignments to Turnitin (via the course's eClass site) for a review of textual similarities 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. 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.

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 special significance](#). Should any of the dates specified in this syllabus for course examinations, tests, or deadlines conflict with a date of religious significance, please contact the instructor within the first three (3) weeks of class. If the date falls within the formal examination periods, you must complete and submit a [Religious Accommodation for Examination Form](#) at least three (3) weeks before the start of the exam period.

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 academic success.
- [Peer-Assisted Study Sessions \(PASS\) Program](#) provides student study sessions for students to collaborate and enhance their understanding of course content in certain courses.
- [Student Numeracy Assistance Centre at Keele \(SNACK\)](#) supports students in courses involving math, stats, 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](#) provides tips for time management, effective study and learning habits, keeping up with coursework, and other learning-related supports.
- [Learning Commons](#) provides links to supports for time management, writing, study skills, preparing for exams, and other learning-related resources.
- [Roadmap to Student Success](#) provides students with timely and targeted resources to help them achieve academic, personal, and professional success.
- [Office of Student Community Relations \(OSCR\)](#) is responsible for administering the [Code of Student Rights & Responsibilities](#) and provides critical incident support.
- [Peer Mentorship](#) helps students transition through their first year by connecting them with upper-year students. The mentors can help 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](#).