

**Food 4103A- Food Safety Risk Assessment**  
**Winter 2026**

<b>Instructor</b>	David R. McMullin, PhD Office: 420 Steacie Building Laboratory: 412 Steacie Building Email: david.mcmullin@carleton.ca
<b>Class time</b>	Tuesdays, 2:30-5:30 pm
<b>Location</b>	Please check Carleton Central.
<b>Modality</b>	in person
<b>Lectures</b>	3 hours a week
<b>Preclusions</b>	none
<b>Prerequisites</b>	BIOC 3101, and third or fourth-year standing
<b>Contact:</b>	Email questions at any time and I will respond as soon as possible  Email to make an appointment (in person or online)  Pop by my office for an informal discussion. If my door is open I am generally available.

**Course Description- from Instructor**

The role of risk assessment in providing science-based approaches to solving food safety problems will be covered. This includes risk assessment models and practical applications critical for risk management approaches. An examination of actual risk assessments will be performed. Risk communication is addressed. This interdisciplinary course will be given through a combination of lectures provided by the instructor and guest lecturers, case studies, readings and student-led presentations.

**From the Undergraduate Calendar**

The role of risk management in providing science-based approaches to solving food safety problems. Risk management models and practical applications in critical risk management. An examination of actual risk assessments. Risk communication is addressed.

## How to Contact the Instructor

**There is no such thing as a poor question!** Your success in this class is important. If there are aspects of this course that prevent you from learning or excludes you, please let me know as soon as possible. Together we will develop strategies to meet both your needs and the requirements of the course

1) **Office hours**- no official office hours. Class time can be used to discuss course materials or set up an appointment outside of class.

2) **Send me a message**- I respond to student queries during regular business hours (Mon – Fri, 8:30am - 4:30pm) and you can typically expect a response within 24 hours (weekend and holidays excluded).

3) **Informal appointment** – I have an open-door policy. If you see my office (420 SC) door open and want to pop in for a quick discussion or ask a question, you are welcome to.

Questions and concerns of a professional or personal nature should be sent to me by email or addressed during a private meeting (scheduled appointment).

The university also offers many resources to help you succeed in your studies (and beyond). A few key points of contact are listed below. If you are in need to help, please don't hesitate to let me know, I'm happy to point you in the right direction.

Useful Links (presented in alphabetical order):

- [Career Services](#)
- [Carleton University Students' Association \(CUSA\)](#)
- [Centre for Student Academic Support \(CSAS\)](#)
- [Health and Counseling Services](#)
- [Paul Menton Centre](#)
- [Sexual Assault Support Services](#)
- [Science Student Success Centre \(SSSC\)](#)
- [Wellness Centre](#)

## Readings

No required textbook.

Readings related to the course material will be posted on Brightspace prior to lectures. These readings are typically required for classroom discussion (participation) and case studies related to the lecture materials.

## Class time

Class time will be used to cover and actively discuss course material. Class time will also serve as office hours/tutorial sessions to answer questions and take up questions from the case studies and assigned readings. Your participation (different than attendance) in these sessions will be reflected in the participation portion of your grade. This time will also be used at the end of the semester for student led presentations.

## Technology Checklist

1. An internet-enabled computer (laptop/desktop)
2. Access to reliable internet

## Course evaluation

Evaluation of a risk assessment	10%
Briefing note	10%
Risk analysis presentation	20%
Risk analysis term paper	20%
Participation	20%
Midterm	20%

## Tentative Class Schedule

<b>Date</b>	<b>Lecture Topic(s)</b>	<b>Evaluation</b>
January 6	Introduction to risk assessment <b>Risk assessment overview case study</b>	Evaluation of a risk assessment- assigned
January 13	Introduction to risk assessment: hazard identification and hazard characterization <b>Ochratoxin A case study</b>	Risk analysis presentation- assigned
January 20	Introduction to risk assessment: hazard characterization <b>Aflatoxin case study</b>	Evaluation of a risk assessment- due
January 27	Introduction to risk assessment: hazard characterization and exposure assessment <b>Deoxynivalenol case study</b>	Risk analysis term paper- assigned Briefing note- assigned
February 3	<b>No class</b>	
February 10	Introduction to risk assessment: exposure assessment and risk characterization	Briefing note- due
February 17	<b>Winter Break</b>	
February 24	<b>Guest lecture-</b>	
March 3	Introduction to risk management Introduction to risk communication	
March 10	<b>Midterm</b>	
March 17	<b>Guest lecture</b>	
March 24	Risk analysis presentations I	Risk analysis presentation II
March 31	Risk analysis presentations II	Risk analysis presentation II
April 7	Risk analysis presentations III	Risk analysis presentation III Risk analysis term paper- due

**Note-** midterm date is tentative and will depend on availability of guest speakers

## Learning Outcomes

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

1. Demonstrate understanding of the natural sciences contribution to risk assessment. This includes the ability to:
  - Understand how scientific evidence is generated to inform decision making
  - Evaluate and assess uncertainty within the natural sciences
  - Connect the natural sciences to domains outside the natural sciences
  - Critically assess and question scientific findings
  
2. Demonstrate understanding of risk assessment frameworks. This includes the ability to:
  - Understand and apply risk assessment frameworks
  - Understand both scientific and non-scientific considerations in risk assessment
  - Make recommendations based on available scientific evidence and non-scientific considerations
  
3. Apply risk analysis frameworks. This includes the ability to:
  - Understand how risk assessment, risk management and risk communication are linked
  - Make recommendations based on all available information
  
4. Communicate interdisciplinary risk analysis findings to both scientific and non-scientific audiences. This includes the ability to:
  - Produce written reports, briefing notes, and oral presentations
  - Concentrate large amounts of information into succinct written reports and presentations
  - Use appropriate scientific language

## Missing Exams

If you miss the midterm, you must notify the instructor within 24 hours after the date of the exam. A make-up exam will be permitted under two conditions only: illness or bereavement. A document is required to schedule an alternative time for the midterm. If no documentation is provided, you will receive a grade of zero. *Please not the midterm and all assignments must be completed to pass the course.*

## Late Assignment

Late assignments will lose 10% per day (1 grade point value). An assignment can no longer be submitted 9 days following its initial deadline. *All assignments must be completed to pass the course.*

## Feeling Sick?

If you feel very sick (e.g., fever, chills, stomach upset) do not come to class or campus. Contact the instructor if you are going to miss class.

## Mental Health

If you are struggling, please do not hesitate to reach out. I am happy to listen, and/or direct you to resources that might help. In terms of class, if you need extra help or missed a lesson, don't stress! Email me and we will set a time to meet. I'll work with you, I promise. Remember that Carleton also offers an array of mental health and well-being resources, which can be found [here](#).

## University Policies

In accordance with the Carleton University Undergraduate Calendar Regulations, the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100      B+ = 77-79      C+ = 67-69      D+ = 57-59

A = 85-89      B = 73-76      C = 63-66      D = 53-56

A- = 80-84      B- = 70-72      C- = 60-62      D- = 50-52

F = <50

WDN = Withdrawn from the course

DEF = Deferred

**The 2025-2026 Academic Year-** <https://calendar.carleton.ca/academicyear/#winter2026>

## **Academic Accommodations, Regulations, Plagiarism, Etc.**

Carleton University is committed to providing access to the educational experience in order to promote academic accessibility for all individuals.

Academic accommodation refers to educational practices, systems and support mechanisms designed to accommodate diversity and difference. The purpose of accommodation is to enable students to perform the essential requirements of their academic programs. At no time does academic accommodation undermine or compromise the learning objectives that are established by the academic authorities of the University. More information can be found at: <https://students.carleton.ca/course-outline/>

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<https://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

## **Academic Accommodations for Students with Disabilities**

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the [Paul Menton Centre website](#).

## **Addressing Human Rights Concerns**

The University and all members of the University community share responsibility for ensuring that the University's educational, work and living environments are free from discrimination and harassment. Should you have concerns about harassment or discrimination relating to your age, ancestry, citizenship, colour, creed (religion), disability, ethnic origin, family status, gender expression, gender identity, marital status, place of origin, race, sex (including pregnancy), or sexual orientation, please contact the [Department of Equity and Inclusive Communities](#) at [equity@carleton.ca](mailto:equity@carleton.ca).

## **Religious Obligations**

Please contact me with requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, please review the [Student Guide to Academic Accommodation \(PDF, 2.1 MB\)](#).

## **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are

supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/sexual-violence-support/>

### **Accommodations for Missed Work**

Carleton recognizes that students may experience unexpected, temporary incapacitation (i.e., illness, injury, or extraordinary circumstances outside of a student's control). As a result, Carleton has put into place a protocol for students to apply for accommodations using a self-declaration form in the event of missed work. The form can be found at: <https://carleton.ca/registrar/wp-content/uploads/self-declaration.pdf>

Note that these forms should be used for short-term concerns related to missed work; if you are experiencing chronic, ongoing challenges which necessitate a broader solution, I recommend reaching out to the Paul Menton Centre and/or the Care Support team.

### **For Pregnancy**

Please contact me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, please review the [Student Guide to Academic Accommodation \(PDF, 2.1 MB\)](#).

### **Accommodation for Student Activities**

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, see the [Senate Policy on Accommodation for Student Activities \(PDF, 25KB\)](#).

### **Academic Integrity**

Academic Integrity is upholding the values of honesty, trust, respect, fairness, responsibility, and courage that are fundamental to the educational experience. Carleton University provides supports such as academic integrity workshops to ensure, as far as possible, that all students understand the norms and standards of academic integrity that we expect you to uphold. Your teaching team has a responsibility to ensure that their application of the Academic Integrity Policy upholds the university's collective commitments to fairness, equity, and integrity. Adapted from [Carleton University's Academic Integrity Policy, 2021](#)).

### **Examples of actions that do not adhere to Carleton's Academic Integrity Policy include:**

- Plagiarism

- Accessing unauthorized sites for assignments or tests
- Unauthorized collaboration on assignment and exams
- Using artificial intelligence tools such as ChatGPT when your assessment instructions say that it is not permitted

Please review the checklist [linked here](#) to ensure you understand your responsibilities as a student with respect to academic integrity and this course.

### **Use Of Artificial Intelligence (AI) In Course**

The use of AI (Chat GPT/Generative AI, Perplexity, etc) is not permitted for any assignments in the course. The use of AI is considered at the same level as plagiarism (see above) and will follow the Academic Regulations and the associated Academic Integrity Policy as Plagiarism. If it is required, you need to clarify "how" you are using it.

### **Sanctions for Not Abiding by Carleton's Academic Integrity Policy**

A student who has not upheld their responsibilities under Carleton's Academic Integrity Policy may be subject to one of several sanctions. A list of standard sanctions in science can be found [here](#).

Additional details about this process can be found on [the Faculty of Science Academic Integrity website](#). Students are expected to familiarize themselves with and follow the Carleton University [Student Academic Integrity Policy](#). The Policy is strictly enforced and is binding on all students.

### **Student Rights & Responsibilities**

Students are expected to act responsibly and engage respectfully with other students and members of the Carleton and the broader community. See the [7 Rights and Responsibilities Policy](#) for details regarding the expectations of non-academic behaviour of students. Those who participate with another student in the commission of an infraction of this Policy will also be held liable for their actions.

### **Student Concerns**

If a concern arises regarding this course, your first point of contact is me. Email to schedule an appointment or pop by my office and I will do my best to address your concern(s). If I am unable to address your concern, the next points of contact in order are the chemistry undergraduate chair (Dr. David Brock), the chemistry department Chair (Dr. Sean Barry) and the Office of the Dean of Science ([ODScience@carleton.ca](mailto:ODScience@carleton.ca)). Note: You can bring your concerns to Ombuds services.

## **Assistance for Students**

Academic and Career Development Services: <http://carleton.ca/sacds/>

Writing Services: <http://www.carleton.ca/csas/writing-services/>

Peer Assisted Study Sessions (PASS): <https://carleton.ca/csas/group-support/pass/>

Math Tutorial Centre: <https://carleton.ca/math/math-tutorial-centre/>

Science Student Success Centre: <https://sssc.carleton.ca/>