

## NFS488H1S – Nutritional Toxicology 2021 Winter Term

**Course Instructor:** Dr. Amel Taibi | **Email:** [amel.taibi@utoronto.ca](mailto:amel.taibi@utoronto.ca)

**Online Office Hours:** Wednesdays from 1pm to 3pm

### Course Description

The course introduces the basic principles of toxicology and illustrates their application in the context of food and nutrition. This course will present different types of study designs and discuss how these methods can be applied to studying the effects of toxic substances in the food supply on health. Emphasis will be placed on evaluating the findings of nutritional toxicology studies and understanding why conflicting evidence may exist

### Prerequisites

BCH210H1, NFS284H1

### Learning Objectives

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

- Define basic scientific terminology and describe core concepts in toxicology as they apply to nutrition and the food supply.
- Distinguish between different types of research study designs and explain some advantages and disadvantages of specific methodological approaches.
- Identify and describe different sources of toxicity in the food supply and discuss their potential effects on health.
- Critically evaluate findings from the scientific literature on a specific, potentially toxic substance found in the food supply.

### Teaching Assistants

1. **Lorena Lopez** | **Email:** [l.lopezdominguez@mail.utoronto.ca](mailto:l.lopezdominguez@mail.utoronto.ca)

2. **Sabrina Ayoub-Charette** | **Email:** [sabrina.ayoubcharette@mail.utoronto.ca](mailto:sabrina.ayoubcharette@mail.utoronto.ca)

### Course materials

No textbook is required for this course.

### Course Format

This is a hybrid course, that blends asynchronous lectures, where the students have will have to complete coursework on their own, and synchronous meetings/oral presentations that students

are required to attend **on March 31 and April 7**. However, the students need to remain up to date with the course announcements posted on the announcement rubric and discussion boards and the due dates provided by the instructor

The lectures records will be posted on Quercus.

## **Virtual Course Delivery**

The lecture slides and records will be posted on Quercus every Wednesday by 9 am. The students will need a computer with an internet connection that is fast enough to download the lecture records and to stream video.

Computer accessories such as a microphone, speakers, and webcam are also needed to enable students' participation during the oral presentations.

## **Office Hours**

Since this is an online course, the office hours will be on Zoom and are scheduled on Wednesdays from 1 pm to 3 pm

Consultations are welcomed and highly encouraged. Please contact the course instructor by email to arrange the meetings. Any emails addressed to Dr. Taibi must have a brief, relevant subject line, must come from a @utoronto.ca email account.

## **Electronic Communication**

All the announcements will be made on the course website, it is the students' responsibility to remain updated with the course messages and to activate the announcement notifications

The course website includes a discussion board for students to ask questions related to lecture material and general course content. If you have a question about course material, please post it here for the benefit of everyone.

Individual queries to the instructor about marks or personal matters should be sent by email.

## **Accessibility Needs**

The University of Toronto is committed to accessibility. If you require accommodations for a disability or have any accessibility concerns about the course, the classroom, or course materials, please contact Accessibility Services as soon as possible at [accessibility.services@utoronto.ca](mailto:accessibility.services@utoronto.ca) or <http://www.studentlife.utoronto.ca/as>

## Course Overview and Assessment

### Course Schedule

Date	Lecture Topic	Deadlines and assessments
Week 1 (Jan. 13)	<b>Lecture 1:</b> Introduction to Nutritional Toxicology (Asynchronous)	Lecture 1 must be completed by the end of the week
Week 2 (Jan. 20)	<b>Lecture 2:</b> Natural Toxins and Toxicants (Asynchronous)	Lecture 2 must be completed by the end of the week <b>Choosing the research topics</b>
Week 3 (Jan. 27)	<b>Lecture 3:</b> Toxicity tests and toxicogenomic in nutrition (Asynchronous)	Lecture 3 must be completed by the end of the week
Week 4 (Feb. 3)	<b>Lecture 4:</b> Dietary Reference Intakes for Toxicity (Asynchronous)	Lecture 4 must be completed by the end of the week
Week 5 (Feb. 10)	<b>TERM TEST #1</b>	
<b>Week 6 (Feb. 17)</b>	Reading week – No class	<b>No tutorial</b>
Week 7 (Feb. 24)	<b>Lecture 5: Gut Microbiome and Toxicity</b> (Asynchronous)	Lecture 5 must be completed by the end of the week <b>Outline of the report due</b>
Week 8 (Mar. 3)	<b>Lecture 6:</b> Excess of nutrients and toxicology (Asynchronous)	Lecture 6 must be completed by the end of the week
Week 9 (Mar. 10)	<b>Guest lecture:</b> Dr. Bibiana Garcia-Bailo Gene-food toxicant interactions (Asynchronous)	Lecture 7 must be completed by the end of the week
Week 10 (Mar. 17)	<b>Lecture 8:</b> Food Safety and regulations (Asynchronous)	Lecture 8 must be completed by the end of the week <b>Written reports due</b>
Week 11 (Mar. 24)	<b>TERM TEST #2</b>	
Week 12 (Mar. 31)	All group slides In-class group presentations (part1) <u>(Synchronous)</u>	<b>Oral Presentations due</b>
Week 13 (Apr. 7)	In-class group presentations (part2) <u>(Synchronous)</u>	

## Assessment breakdown

Assessment	Weight	Date
Term Test 1	30%	February 10
Group Project Outline	3%	February 24
Group Written report	20%	March 17
Term Test 2	30%	March 24
Group Presentation	15%	March 31, April 7
Participation	2%	March 31, April 7

**Term tests:** (60% of course grade). There will be two-term tests, each counting for 30% of the course grade. Each term test will include material covered up to the week before the test. Questions will be in multiple-choice, long-answer, and short-answer form. The term tests will take place **on February 10 and March 24**. Further details will be posted on Quercus

**Group project:** (38% of course grade). There will be one project per group. A detailed description of the entire group assignment will be announced online along with the marking rubrics. Students will be placed into groups of 4-5 and will be assigned a topic of a food-related substance with potentially toxic properties. The objective of the project is for the groups to synthesize scientific literature and apply concepts of toxicology to critically evaluate the potential hazards of the substance.

The project consists of 3 components: an outline, an oral presentation, and a written report.

**Outline:** (3% of course grade). The outline will briefly describe the proposed hazards of the substance, the toxicology concepts and search strategies that will be applied, and the types of scientific studies to be evaluated. **The outline will be submitted online on February 24.**

**Outlines submitted by email will not be accepted.**

**Written Report:** (20% of course grade). The report that accompanies the oral presentation is **due from all groups on March 17**. The report may be up to 12 pages in length (double-spaced, size 12 font, 1-inch margins) excluding Tables, Figures and References.

For writing assistance, students may wish to use the resources at the University of Toronto Academic Writing Centre:

[http://www.wdw.utoronto.ca/index.php/current\\_students/academic\\_writing\\_centre/](http://www.wdw.utoronto.ca/index.php/current_students/academic_writing_centre/).

**Oral Presentation:** (15% of course grade). Groups will discuss the evidence they have evaluated along with their application of toxicology concepts, and present their conclusions about their assigned substance. All group members will be expected to speak. A maximum of 15 minutes will be allotted, with an additional 3 minutes for questions from the audience (18 minutes total). **Presentations will be online on March 31 and April 7, but all slides must be submitted online on March 31 before 10 am.** The instructor will assign presentation orders.

**Participation:** (2% of course grade). Participation during the March 31 (1%) and April 7 (1%) group presentations will be evaluated. Attendance at the time of the presentation is mandatory

**Course assignments must represent original work. Plagiarism is a serious academic offense.**

*“Normally, students will be required to submit their course assignments to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their assignments to be included as source documents in the Turnitin.com reference database, where they will be used solely to detect plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site”.*

Submission of the outline and the written report through Turnitin is voluntary, but students who choose not to use Turnitin will be required to meet with the instructor for an oral test where they will be asked questions about their preparation of the assignment and their knowledge of its subject matter. More information on how to submit work through Turnitin will be provided in class and on Quercus, along with the detailed description of the overall course assignment, on January 15.

## **Attendance, missed term tests and late work**

**Attendance is mandatory for online group presentations.** Students who do not attend the presentations on March 24 and 31 will not receive marks toward the participation grade.

Missed term tests: There are no make-up tests for missed tests. If a student misses a term test, they will receive a grade of 0 unless an acceptable explanation that is backed up with documentation is presented. In this case, the overall grade will be redistributed among the remaining assessments.

Late submission of either the group project outline or the written report will result in a deduction from the total course grade for each day it is late, up to the assignment's total worth. **A 10% deduction per day will be applied to late outlines and written reports.**

Missed presentation: If a group member misses their group's presentation, they will receive a grade of 0 for the presentation, unless an acceptable reason exists (that is backed up with documentation), in which case their overall grade will be redistributed among the remaining assessments.

### **Required documentation for missed work:**

- A justified medical excuse, with University of Toronto Verification of Student Illness or Injury form completed by a health care provider. These forms are available from the following website: <http://www.illnessverification.utoronto.ca/>
- Personal distress. A written or verbal explanation to the instructor is required. All discussions with the instructor will be confidential. Students dealing with intense or ongoing personal distress or chronic illness, who may need special and continuing accommodation, may be asked for additional documentation and are advised to discuss their situation with their college registrar.

**Please note** that poor time management, having several assignments due at the same time, having to study for term tests, etc are **NOT** compelling reasons for an extension. Students are expected to complete their assignments as best they can, hand them in on time, even if incomplete, and accept that they may not get as high a grade as they would like.

The instructor is dedicated to working with you to help you achieve the best learning experience during this course, however, last-minute (i.e. the night before tests or deadlines for assignments) response to requests cannot be promised. Work and study ahead of deadlines so the instructor can be of most assistance to you.

### **Regrade Policy**

The students will have one week from the date that the grade is posted to appeal their marks. If the students would like to contest a mark, they must submit a written proposal by email to Dr. Taibi explaining why a re-grade is warranted. The instructor may or may not choose to re-grade, it will depend on how well each student presents their case. The instructor reserves the right to re-read and re-grade the entire work. Be aware that the mark may go up, down, or stay the same.

### **Notice of video online recording and sharing**

This course will use Zoom and/or Microsoft Teams for online group presentations. The students should be aware that, these presentations will be video recorded by the instructor for evaluations and grading purposes, but will not be distributed nor posted online.

During the oral presentation, the students may not create audio recordings of classes except for those students requiring accommodation for a disability, who should speak to the instructor before starting to record lectures.

Students creating an unauthorized audio recording of lectures violate an instructor's intellectual property rights and the Canadian Copyright Act. Students violating this agreement will be subject to disciplinary actions under the Code of Student Conduct.

### **Copyright and sharing permissions**

Lecture videos, tutorials, and any other course material belong to the instructor, the University, and/or other source depending on the specific facts of each situation, and are protected by copyright. In this course, the students are permitted to download session videos and materials for their academic use, but they should not copy, share, or use them for any other purpose without the explicit permission of the instructor.