

**NFS 484F/1484F: Advanced Nutrition  
Course Syllabus  
September 7 to November 30, 2023**

- Classes:** Thursdays, 09:00 to 12:00  
**Format:** In-person; 9:10-10:10 Lecture, 10:20-11:20 Group Activity, 11:20-12:00 Activity Debrief and/or Grad Presentations.  
Times are approximate.
- Instructor:** Adam Metherel, PhD [adam.metherel@utoronto.ca](mailto:adam.metherel@utoronto.ca)  
Office Hours: Thursdays from 12:30 to 1:30pm (MSB 5344)

**Course Description:**

This is an advanced course in nutrition which covers the analysis of the effect of food and its constituents on living organisms, with particular emphasis on humans. The objectives of the course are threefold:

1. To integrate nutrition with biochemistry and physiology. The emphasis of the course will be on metabolism, examining its regulation from a cellular to whole body perspective.
2. To develop a basis for appreciation of research and its application. This will be accomplished through a combination of lecture material and assigned readings for students.
3. To develop an ability to interpret research data. This will be accomplished through in-class group activities.

**Prerequisites:** BCH210H1, CSB349H1/PSL350H1/BCH311H1, NFS284H1, PSL302Y1/(PSL300H1, PSL301H1), (STA220H1, STA221H1)/JBS229H1

As this is not intended to be an introductory course, students will be expected to have a sound knowledge of biochemistry, physiology and introductory statistics.

**Course Materials:**

e-textbooks: Links will be provided on Quercus; students will need to access these for weekly assigned readings.

Frayn KN. 2010. Metabolic Regulation: A human perspective. 3rd edition. Wiley-Blackwell. UK.

Bender BA. 2014. Introduction to Nutrition and Metabolism. 5<sup>th</sup> edition. CRC Press. Boca Raton, Florida.

Class materials: Lecture slides, required readings and other materials can be obtained through Quercus. This site will continue to be updated throughout the term.

<b>Evaluation Scheme*:</b>		<b>484 Students (%)</b>	<b>1484 Students (%)</b>
First term test	October 5	40	35
Second term test	November 23	40	35
In-class group activities	September 21 – November 30	15	15
In-class mini quizzes	October 19 - November 30	5	5
Grad assignment**	Scheduled early in semester	—	10

\*For students with religious observances on assignment due dates or scheduled tests, please speak with Dr. Metharel in advance to arrange an alternate date.

\*\*NFS 1484F students are required by the School of Graduate Studies to complete a piece of work in addition to that required by NFS 484F students. This will be a group presentation on public health applications of a selected course topic. Details provided in the 'Graduate Assignment' document.

### **Course Expectations:**

In-class group activities: Dr. Metharel will randomly assign students to groups of three or four. During class time, students will work in their assigned groups on structured activities designed to develop their knowledge and skills in interpreting research data, applying principles of metabolic regulation, and collaborating with their peers. There will be a group activity in every class, which will be submitted for grading (see course schedule). The overall grade for group activities will be based on the best seven out of eight activities.

Group work is a very important part of this course and students are expected to attend all group work sessions. If course conflicts necessitate repeated absences from class, students are urged to seriously consider whether this course is suitable for them, as no accommodations will be made for students in this situation. In order to accommodate class absences that may occur on occasion (i.e., COVID, other illness or injury, family situation) the two lowest group activity marks will be dropped for each student; there will be no make-up activities for those missed classes.

Term tests: There are two short answer tests, given as online tests, that will be similar in format to the group activities. Tests will be posted on Quercus and available to students at 9:00 am on the day of the test. Within 24 hours (i.e., by 9:00 am the following day), students must submit test responses on the Quercus test template and upload a document with all their responses to Ouriginal, the University's plagiarism detection tool.

In-class mini quizzes: There will be five (depending on # of grad students) class presentations given by groups of students in the 1484 section of the course, as part of the School of Graduate Studies requirements. All students will be required to complete a mini quiz in class, based on the group presentation.

Ouriginal: Students will be required to submit their term tests to the University's plagiarism detection tool, Ouriginal, for a review of textual similarity and detection of possible plagiarism. In so doing,

students will allow their term tests to be included as source documents in the Ouriginal reference database, where they will be used solely for the purpose of detecting plagiarism. For more information about this plagiarism detection tool, see the [Student Guide](#).

If you have problems that prevent you from submitting to Ouriginal, please contact the instructor. All students are expected to submit to Ouriginal, which is voluntary, or provide an alternative. Failure to do so could result in a grade of **ZERO** for the term tests. For those who do not submit to Ouriginal, as an alternative you will be expected to meet with the instructor for a short **oral test** during which you will be asked questions about the process of writing the term test and your knowledge of the test content. Your test mark may be modified based on how well you answer those questions.

### **Communication:**

Discussion boards: Questions about course content, such as lecture material, group activities and tests can be posted to Quercus discussion boards at any time.

Office hours: Dr. Metharel will be available once a week for office hours. Thursdays, 12:30-1:30pm in MSB 5344.

Teaching Assistant: The contact information for the course TA will be provided. The TA will be your first point of contact for questions related to course content.

Quercus announcements: Announcements are posted on the course website and it is the student's responsibility to read these regularly. **It is strongly recommended that students leave their Quercus notifications on**, to be automatically advised of Quercus announcements, posting of new course content, upcoming due dates, the releasing of grades and other course website changes and additions.

### **Policies:**

Missed tests: Students who are absent for a term test for any reason (e.g., COVID, other illness or injury, family situation) should report their absence through the online absence declaration. The declaration is available on [ACORN](#) under the Profile and Settings menu. Students should also advise their instructor of their absence as soon as possible, ideally prior to the test date, but **NO LATER** than one week after the date.

Students will have to write a supplemental test. Failure to write a supplemental test within a reasonable time frame will result in a mark of zero for that component. It is the student's responsibility to contact the course instructor to schedule a make-up test or class activity.

Re-read policy: If you have substantial concerns about the grades on your tests, you may request a re-read. A link will be made available on Quercus for you to upload your request and any supporting files. Describe as specifically as possible your concerns. This can be in the form of comments, or alternatively, or in addition, an uploaded copy of your test with annotations and/or

highlighting that indicate the specific areas of concern. If comments about your test are not included with your request, a re-read will not be done. As a result of the re-read, **your mark can go up, down, or stay the same**. Please note that the higher your original mark (especially marks >80%) the less likely an upward adjustment in your mark will occur. Dr. Metherel's decision is final.

**Deadlines for rereads:** One week after the test is returned, unless otherwise indicated.

Copyright, intellectual property and privacy considerations: A lecture is considered the intellectual property of the instructor, and copyright guidelines and regulations apply to the recording of lectures. Furthermore, recording a lecture also requires the observation of privacy guidelines and regulations for students in the class whose presence or statements might also be recorded.

The unauthorised use of any form of device to audiotape, photograph, video-record or otherwise reproduce lectures, course notes or teaching materials provided by instructors is covered by the Canadian Copyright Act and is prohibited. Course videos and recordings may not be reproduced or posted or shared anywhere other than the official course Quercus site and should only be used by students currently registered in the course. Recordings may be saved to students' laptop for personal use.

Academic Integrity: The University of Toronto is deeply committed to the free and open exchange of ideas, and to the values of independent inquiry. Academic integrity is fundamental to the University's intellectual life. What does it mean to act with academic integrity? It means acting in all academic matters with **honesty, trust, fairness, respect, responsibility, and courage**.

The University of Toronto's Code of Behaviour on Academic Matters outlines the behaviours that constitute academic misconduct. Plagiarism (the presentation or paraphrasing of another person's work as if it was one's own) is a form of academic fraud with potentially serious consequences. All university policies regarding plagiarism will be upheld in this course. Refer to <http://academicintegrity.utoronto.ca/>

Accessibility: The University provides support and accommodations for students with disabilities to ensure equitable access to opportunities and achievement of students' full potential. If you require accommodations for a disability, or have any accessibility concerns about the course, please contact Accessibility Services as soon as possible. Refer to <http://www.studentlife.utoronto.ca/as>

Resources and supports: If you or someone you know is in distress and there is an immediate risk, call 911. The following includes supports available to students on all three campuses:

- [U of T St. George \(Downtown Toronto\)](#)
- [U of T Scarborough](#)
- [U of T Mississauga](#)

Additionally, students have access to [U of T My Student Support Program \(My SSP\)](#) | 1-844-451-9700 24/7. Outside of North America, call 001-416-380-6578. Culturally competent mental health and

counselling services are available in 146 languages for all U of T students.

### Course Schedule:

This course includes a combination of lectures and group work, as follows:

<b>Date</b>	<b>Content</b>	<b>Graded Group Activities, Mini-Quizzes, Grad Assignments</b>
Sept. 7	Intro, key concepts, statistical analyses	<b><u>Undergrads ONLY</u></b>
14 (1 <sup>st</sup> half)	Intro, key concepts, statistical analyses	<b><u>Grads ONLY</u></b>
14 (2 <sup>nd</sup> half)	Glucose transporters	<b><u>Undergrads + Grads</u></b>
21	Carbohydrate quality and absorption	Activity #1
28	Dietary fibre and colonic fermentation	Activity #2
Oct. 5	<b>First Term Test – online</b>	
12	Dietary fats, lipoproteins and atherogenicity	Activity #3
19	Polyunsaturated fatty acids	Activity #4, Mini-Quiz, Grad Presentation – Group 1
26	Fructose	Activity #5, Mini-Quiz, Grad Presentation – Group 2
Nov. 2	Metabolic adaptation to fasting/starvation	Activity #6, Mini-Quiz, Grad Presentation – Group 3
9	<b>Reading Week – no class</b>	
16	Energy expenditure + substrate utilization	Activity #7, Mini-Quiz, Grad Presentation – Group 4
23	<b>Second Term Test – online</b>	
30	Diet composition + body weight regulation	Activity #8, Mini Quiz, Grad Presentation – Group 5