# NFS 484F/1484F: Advanced Nutrition

**September 5 to November 28, 2019**

**Lectures:** Thursdays, 09:00 to 12:00
**Format:** 9:10-10:10 Lecture, 10:20-11:20 Group Activity, 11:20-12:00 Activity Debrief. Times are approximate.

**Instructor:** Laurie Ricciuto, PhD laurie.ricciuto@utoronto.ca
Office Hours: Thursdays from 13:30 to 14:30, MSB 5347

## 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 current 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)

**Expectations:** 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.

## Evaluation*:

| | | 484 Students (%) | 1484 Students (%) |
|---|---|---|---|
| First term test | October 3, 2019 | 40 | 35 |
| Second term test | November 14, 2019 | 40 | 35 |
| In-class group activities | September 12 – November 28 (Best 8 out of 9) | 15 | 15 |
| In-class mini quizzes | October 17- November 28 | 5 | 5 |
| Grad assignment** | Scheduled early in semester | __ | 10 |

*For students with religious observances on assignment due dates or scheduled tests, please speak with course instructor 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 the public health applications of a selected course topic. Details provided in the 'Graduate Assignment' document.

## Course Expectations:

Term tests: These will be given as 'time limited' take home examinations. Tests will be posted to Quercus and made available to students at 9:10 am on the day of the examination. Students will be required to upload the completed examination to Quercus within 24 hours.

Turnitin.com: Students will be required to submit their term tests to Turnitin.com 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 Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.

If you have problems that prevent you from submitting to Turnitin, please contact the instructor. All students are expected to submit to Turnitin, 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 Turnitin, 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.

In-class activities: Students will work in small groups on structured activities designed to develop their knowledge and skills in interpreting research data.

Students missing the regularly scheduled tests or in-class activities, and with satisfactory reasoning (e.g., illness, personal distress, family emergency), will have to write a supplemental test/activity. Please contact the instructor as soon as possible, ideally prior to the test/class date, but NO LATER than one week after the date. You will be asked to provide a reason for missing the test/activity. This can be a written explanation from you or a medical certificate. http://www.illnessverification.utoronto.ca/index.php Verbal explanations can also be provided. All discussions are treated as 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. Failure to write a supplemental test/activity 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/activity.

## Course Materials:

Textbooks: No specific text is assigned for this course. However, the following textbooks can serve as general reference.

1. Frayn KN. 2010. Metabolic Regulation: A human perspective. 3rd edition. Wiley-Blackwell. (*Available as e-book and in Gerstein Course Reserves)*

2. Gropper SS, Smith JL and Carr TP. 2016. Advanced Nutrition and Human Metabolism. 7th ed. Cengage Learning. Boston, Massachusetts. *(Available in Gerstein Course Reserves)*

3. Harvey RA Ferrier DR. 2014. Lippincotts Illustrated Reviews: Biochemistry, North American Edition. 6th Ed. JB Lippincott, Philadelphia.

4. Lanham-New, MacDonald and Roche. 2011. Nutrition and Metabolism, 2nd Ed. Wiley Blackwell. *(Available as e-book)*

Course Notes and Handouts: Class materials and previous tests can be obtained through Quercus. This site will continue to be updated throughout the semester.

Re-read policy: If you have substantial concerns about the grades on your tests, you may request a re-read. Details on how to do this will be described in class when tests are returned.

Lecture material, audio recordings, and intellectual property: Lecture presentations and course materials are the intellectual property of the instructor. All students enrolled in NFS484/1484 are permitted to use the material for personal study only. You may also make audio recordings of the lecture for personal use. Posting of lecture material online, whether the audio or visual component, is not permitted without permission of the instructor.

**Course Schedule:**

| Date | Content | Group Activities (484 and 1484)<br>Grad Assignments (1484) |
|---|---|---|
| Sept. 5 | Introduction to course and overview of key concepts | Intro Activity (not marked) |
| 12 | Effect of carbohydrate quality on absorption and metabolism | Activity #1 |
| 19 | Dietary fibre and colonic fermentation | Activity #2 |
| 26 | Glucose transporters | Activity #3 |
| Oct. 3 | **First Term Test – online** | |
| 10 | Fat absorption and lipoprotein atherogenicity | Activity #4 |
| 17 | Role of exercise | Grad Presentation – Group 1<br>Mini-Quiz, Activity #5 |
| 24 | Fructose | Grad Presentation – Group 2<br>Mini-Quiz, Activity #6 |
| 31 | Metabolic adaptation to fasting and starvation | Grad Presentation – Group 3<br>Mini Quiz, Activity #7 |
| Nov. 4 – 8 | Mid-Term Break | |
| Nov. 14 | **Second Term Test – online** | |
| 21 | Energy expenditure and substrate utilization | Grad Presentation – Group 4<br>Mini-Quiz, Activity #8 |
| 28 | Diet composition and body weight regulation | Grad Presentation – Group 5<br>Mini Quiz, Activity #9 |

**University of Toronto Policies:**

Academic Integrity: Academic integrity is essential to the pursuit of learning and scholarship in a university. 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. Refer to - http://www.studentlife.utoronto.ca/as