



# NUTR\*4210 Nutrition, Exercise and Energy

## Metabolism

Fall 2020

Section(s): C01

Department of Human Health and Nutritional Sciences

Credit Weight: 0.50

Version 1.00 - September 08, 2020

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## 1 Course Details

### 1.1 Calendar Description

In this course energy metabolism will be considered under the headings: thermodynamic principles, energy deposition and hormonal control of metabolism; nutrition, exercise and environmental influences on energy balance and enzyme adaptation; nutrition and exercise in the control of body composition.

**Pre-Requisites:** NUTR\*3210, (1 of BIOM\*3200, HK\*3810)

### 1.2 Timetable

**Lectures:**

Monday/Wednesday/Friday

4:30-5:20am

Class will be offered remotely. Course lectures will be uploaded to YouTube the day of class with accompanying Powerpoint slides posted on Courselink. Links to the Youtube lecture will be posted on Courselink.

### 1.3 Final Exam

The final exam will be during the final exam period. A specific date and time will be announced later in the semester.

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## 2 Instructional Support

## 2.1 Instructional Support Team

<b>Instructor:</b>	David Wright
<b>Email:</b>	dcwright@uoguelph.ca
<b>Telephone:</b>	+1-519-824-4120 x56751
<b>Office:</b>	ANNU 334/316
<b>Office Hours:</b>	Office hours will be held remotely via Zoom, Tuesday's from 9-11 AM, or by appointment. A Zoom invite will be posted on CourseLink the Monday prior to office hours.

## 2.2 Teaching Assistants

<b>Teaching Assistant:</b>	Hesham Shamshoum
<b>Email:</b>	hshamsho@uoguelph.ca

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## 3 Learning Resources

Course Readings: There are NO required textbooks for this course.

### 3.1 Required Resources

#### CourseLink (Website)

<https://courselink.uoguelph.ca>

Outlines of lecture notes will be available on the CourseLink website.

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## 4 Learning Outcomes

The overall course objective is to demonstrate how metabolism is integrated among tissues and to illustrate how lifestyle (nutrition and exercise) can alter these responses with consideration for its subsequent impact on human health. The interaction between exercise and commonly prescribed drugs will also be explored

### 4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Understand fundamental concepts in exercise physiology, including endocrine responses to exercise
2. Understand the processes by which macronutrient metabolism is integrated among tissues in the human body and the adaptations that occur in response to acute and chronic exercise
3. Understand various nutritional strategies that can be used to alter the body's response to exercise
4. Understand how nutrition and exercise affect metabolism and how this in turn impacts

human health and chronic disease

5. Gain experience in interpreting and discussing scientific data and evidence-based information in the field of nutrition, exercise and energy metabolism
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## 5 Teaching and Learning Activities

### 5.1 Course Content

Date	Topic
Sept 9, 11	Introductory class, skeletal muscle glucose metabolism during exercise
Sept 14-18	Acute effects of exercise on skeletal muscle and adipose tissue metabolism
Sept 21-25	Chronic adaptations in muscle and adipose tissue with exercise training
Sept 28-Oct 2	Exercise-induced signalling factors
Oct 5-9	Exercise induced signalling factors continued
	Midterm 1 (Oct 9)
Oct 12-16	<i>No class (Thanksgiving)</i>
Oct 19-23	Exercise in the treatment of obesity, insulin resistance and diabetes
Oct 26-30	Exercise in the treatment of obesity, insulin resistance and diabetes
Nov 2-6	High fat diets for performance and improving health
	Midterm 2 (Nov 6)

Nov 9-13	High fat diets for performance and improving health, continued
	Intermittent fasting and disease prevention
Nov 16-20	Health promoting benefits of polyphenol compounds
	Lifestyle and drug interactions
Nov 23-27	Lifestyle and drug interactions
Nov 30-Dec 4	Lifestyle and drug interactions
	Lifestyle and drug interactions
Dec 7	review

\*\*\*\*\*Exact topics and dates may change\*\*\*\*\*

## 5.2 Important Dates

1. Exams: Friday, October 9, Friday, November 6. Final will be held during exam period.  
TBA
2. Deadline for dropping courses without penalty: December 8

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## 6 Assessments

### 6.1 Assessment Details

#### Midterm 1 (33.33%)

**Date:** Fri, Oct 9, take home

**Learning Outcome:** 1, 2, 3, 4, 5

Learning outcomes assessed 1, 2. This will be an open book, "take home" midterm.

Students will be given 2 hours to complete the exam.

#### Midterm 2 (33.33%)

**Date:** Fri, Nov 6, take home

**Learning Outcome:** 1, 2, 3, 4, 5

Learning outcomes assessed 1-5. This will be an open book, "take home" midterm. Students will be given 2 hours to complete the exam.

**final (33.33%)**

**Date:** take home, TBD

**Learning Outcome:** 1, 2, 3, 4, 5

Outcomes assessed 1-5. This will be an open book, "take home" final. Students will be given 2 hours to complete the exam.

Note: Final is not cumulative

## 6.2 Note

Exam will consist of both multiple choice and short answer questions and will focus on comprehension and application of key concepts.

**Midterms/assignments in other classes on the same day or week are NOT acceptable reasons for seeking a deferred/alternate exam;** an effort has been made to avoid conflicts with other 4th year NUTR/HK midterms in our department. Medical reasons are accepted, and unusual/extreme compassionate circumstances will be considered.

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## 7 Course Statements

### 7.1 Grading

Midterms/assignments in other classes on the same day or week are NOT acceptable reasons for seeking a deferred/alternate exam. Medical reasons are accepted, and unusual/extreme compassionate circumstances will be considered. If the midterm exam is missed (for reasons deemed to be acceptable by the faculty instructor) an alternate midterm exam must be written as the final exam is not cumulative and thus a final exam worth 100% of the final course grade is not possible.

## 8 Department of Human Health and Nutritional Sciences Statements

### 8.1 Academic Advisors

If you are concerned about any aspect of your academic program:

- Make an appointment with a program counsellor in your degree program. [B.Sc. Academic Advising](#) or [Program Counsellors](#)

## 8.2 Academic Support

If you are struggling to succeed academically:

- Learning Commons: There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist.  
<http://www.learningcommons.uoguelph.ca/>
- Science Commons: Located in the library, the Science Commons provides support for physics, mathematic/statistics, and chemistry. Details on their hours of operations can be found at: <http://www.lib.uoguelph.ca/get-assistance/studying/chemistry-physics-help> and <http://www.lib.uoguelph.ca/get-assistance/studying/math-stats-help>

## 8.3 Wellness

If you are struggling with personal or health issues:

- Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance.  
<https://www.uoguelph.ca/counselling/>
- Student Health Services is located on campus and is available to provide medical attention. <https://www.uoguelph.ca/studenthealthservices/clinic>
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations.  
<http://www.selfregulationskills.ca/>

## 8.4 Personal information

Personal information is collected under the authority of the University of Guelph Act (1964), and in accordance with Ontario's Freedom of Information and Protection of Privacy Act (FIPPA) <http://www.e-laws.gov.on.ca/index.html>. This information is used by University officials in order to carry out their authorized academic and administrative responsibilities and also to establish a relationship for alumni and development purposes.

For more information regarding the Collection, Use and Disclosure of Personal Information policies please see the Undergraduate Calendar.  
(<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/intro/index.shtml>)

# 9 University Statements

## 9.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly:

e-mail is the official route of communication between the University and its students.

## 9.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

## 9.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

## 9.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

## 9.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student

Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website  
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website  
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

## 9.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community—faculty, staff, and students—to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct  
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct  
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

## 9.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

## 9.8 Resources

The Academic Calendars are the source of information about the University of Guelph's



procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

## **9.9 Disclaimer**

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

## **9.10 Illness**

The University will not normally require verification of illness (doctor's notes) for fall 2020 or winter 2021 semester courses. However, requests for Academic Consideration may still require medical documentation as appropriate.

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