



NUTR*4210 Nutrition, Exercise and Energy

Metabolism

Fall 2019

Section(s): C01

Department of Human Health and Nutritional Sciences

Credit Weight: 0.50

Version 1.00 - August 08, 2019

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

Location: THRN 1200

1.3 Final Exam

Exam time and location is subject to change. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team

Instructor: Daniel Cervone PhD Candidate
Email: dcervone@uoguelph.ca
Telephone: 1-519-824-4120 X53907
Office: ANNU 371B
Office Hours: By appointment

Instructor: Logan Townsend PhD Candidate
Email: ltownsen@uoguelph.ca
Telephone: 519-824-4120 ext. 56654
Office: ANNU 371B
Office Hours: By appointment.

2.2 Teaching Assistants

Teaching Assistant: Kyle Medak MSc
Email: kmedak@uoguelph.ca

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. We will do our best to post outlines of lecture notes in a timely manner; however, please understand that we cannot guarantee lecture notes ahead of time for every class. The intention of the lecture notes is NOT to provide the student with a complete set of notes, but to provide a guide or outline of the lecture to provide students with a better opportunity to understand the lecture content as it is presented.

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.

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 6 | Introductory class: overview and outline |
| Sept 9-13 | Exercise Physiology Basics |
| | Endocrine Responses to Exercise |
| Sept 16-20 | Guest Lecture |
| | Integrative Metabolism (CHO) |
| Sept 23-27 | Integrative Metabolism (CHO cont'd and Lipids) |
| Sept 30-Oct 4 | Integrative Metabolism (Lipids cont'd) |
| | Midterm 1 (Oct 4) |
| Oct 7 | No class (Thanksgiving) |
| Oct 9-11 | Integrative Metabolism (Protein) |
| | Integrative Metabolism (Protein cont'd) |

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|--------------|---|
| Oct 14-18 | Sex Differences in Carb, Lipid & Protein Metabolism |
| | Adaptations to Exercise |
| Oct 21-25 | Nutritional Strategies for Performance |
| Oct 28-Nov 1 | Exercise as Medicine |
| | Midterm 2 (Nov 1) |
| Nov 4-8 | Obesity |
| Nov 11-15 | Obesity |
| | Aging |
| Nov 18-22 | Sarcopenia |
| | Heart Disease |
| Nov 25-29 | Cancer |
| | Review |

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

5.2 Important Dates

1. Midterm exams: Friday, October 4 and Friday, November 1 (in class)
2. Final exam: Date and Location TBD
3. Deadline for dropping courses without penalty (40th class day): Friday Nov 1

6 Assessments

6.1 Assessment Details

Midterm 1 (30%)

Date: Fri, Oct 4, In class

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

Learning outcomes assessed 1, 2 and 5

Midterm 2 (30%)

Date: Fri, Nov 1, In class

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

Learning outcomes assessed 1-3, 5

Final Exam (40%)

Date: TBD, TBD

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

Outcomes assessed 1-5

Note: Final exam is non-cumulative

6.2 Note

Exam will consist of both multiple choice and short answer questions.

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.

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/>

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>

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.

More information can be found on the SAS website
<https://www.uoguelph.ca/sas>

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>