Food, Nutrition and Health (FNH) Program
Faculty of Land and Food Systems

FNH 350: FUNDAMENTALS OF NUTRITION (Sept – Dec 2022)

ACKNOWLEDGMENT:

UBC's Point Grey Campus is located on the ancestral and unceded territory of the xwməθkwəy̓əm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on in their culture, history, and traditions from one generation to the next on this site.

INSTRUCTOR:

Elizabeth Novak, PhD
Lecturer, Food Nutrition and Health Program

CONTACT:

Office hours: **Tuesdays 11-12 PM FNH 160H,** 2205 East Mall OR via **Zoom**
For questions related to course content, please post on the **Piazza discussion board (available through Canvas)**.
For confidential questions, the instructor can also be reached at via the Canvas email tool

TEACHING ASSISTANTS:

Tony Yang – Graduate Student, Human Nutrition
Cayla Boycott - Graduate Student, Human Nutrition
Kerri Scherbinsky Hoang – Graduate Student, Integrated Science

LECTURE TIME & LOCATION:

Tuesdays & Thursdays, 9:30 AM - 11:00 AM
Earth Sciences Building 1012

PREREQUISITES:

FNH 250 and one of BIOL 201 / BIOC 202

COURSE CONTENT:

This course will cover the macronutrients (carbohydrates, lipids, and protein), fibre, alcohol, and energy metabolism. We will discuss the structure, function, digestion, absorption and metabolism of macronutrients, fibre, and alcohol, and the metabolic and health implications of excessive and inadequate intake of macronutrients and energy.

INFORMATION FOR STUDENTS IN THE DIETETICS MAJOR:

This course, like all required courses in the Dietetics Major, contributes to coverage of the Integrated Competencies for Dietetic Education and Practice (ICDEP). All students in the Dietetics Major should refer to the Mapping of Curriculum to ICDEP page (http://dietetics.landfood.ubc.ca/about/mapping-of-curriculum-to-icdep/) on the dietetics website to familiarize themselves with the requirements.

LEARNING OUTCOMES/COURSE OBJECTIVES:

At the conclusion of this course students should be able to:

1. Describe key features of the structure of various classes of macronutrients and fibre.
2. List the functions and food sources of each of the macronutrients and fibre.
3. Explain the processes of digestion and absorption for the macronutrients, fibre, and alcohol.
4. Describe the ways in which the macronutrients are transported, stored, and metabolized by the body, as well as the means by which waste products of their metabolism are disposed of.
5. Describe the methods used to determine the human requirements for protein and energy.
6. List the factors affecting the requirements for protein and energy, and explain how these factors influence the requirements.
7. Describe the metabolic effects of consuming either excessive or inadequate amounts of the macronutrients, fibre and energy.
8. Describe the effects of feeding and fasting on metabolism.

COURSE MATERIALS:

- **Canvas:** The FNH 350 Canvas site will be used as an important learning and communication resource. Lecture slides and course announcements will be posted on Canvas.
- **Strongly recommended textbook:** Gropper SS, Smith JL, Carr TP (2022). Advanced Nutrition and Human Metabolism. 8th Edition. Cengage.
  This textbook is available for purchase through the UBC Bookstore. Older versions are fine. The ebook can be accessed through the UBC Library, although only 3 users are permitted at a time. A hardcopy has also been placed on reserve in Woodward library.

CLASS FORMAT:

Classes will be delivered online. Classes will consist of lectures, guest speakers, and in-class activities. Class participation through clickers, asking questions, and contributing to in-class and online discussions is strongly encouraged. Canvas will be used as a platform for posting course notes and additional readings, announcements, assignments, quizzes, and discussions. *Lecture recordings will be available for those unable to attend class due to illness or COVID-19 restrictions.*

EVALUATION:

1. Online quizzes (4 @ 5% each)	20%
2. Assignments (4 @ 3% each)	12%
3. Class participation	3%
4. Midterm exam (in class; **on Oct 25, 2022**)	25%
5. Final exam (during formal exam period)	40%

Online quizzes: Frequent (~biweekly) quizzes will help you stay on track, test your understanding of the course material, and identify areas that require further review. The quizzes will be available on Canvas on the dates outlined on the last page of this syllabus. Five quizzes will be offered throughout the semester. Your grade will be calculated based only on your top four scores (ie. Your lowest quiz score will be dropped).

Assignments: The assignments will give you an opportunity to apply what you have learned, debate current research, and begin to think more critically about the course material. They may take the form of group discussions, mini-research projects, or case studies. More information and instructions for each assignment will be posted closer to the opening dates.

Policy on late and missed assessments: Quizzes and assignments must be completed by the deadlines indicated in the course schedule. There will be no late or make-up quizzes or assignments. Quiz and assignment answers will be revealed on the day they are due, and, therefore, late submissions will not be accepted. In the event where a student must miss a quiz or assignment with a valid excuse, the corresponding mark will be allocated to the final.

Class participation (Clicker): We will be using iClicker Cloud for active learning and participation marks during lectures. You will need to sign up for a clicker account and have a device (phone, tablet or computer) available to answer clicker questions during class sessions. For more information on how to set up your device for iClicker please see: https://lthub.ubc.ca/guides/iclicker-cloud-student-guide/. Students will receive 3 marks for participation of >80%, 2 of 3 marks for participation of 65-80%, 1 of 3 marks for participation of 50-65% and 0 of 3 marks for participation of <50%.

NOTE: The instructor may choose to change to a different system for in class participation, such as zoom polls or Poll Everywhere. Students will be notified in advance if this change will be made.

Midterm and final examinations: The examinations will test all lecture material posted on Canvas and presented in class. Both the midterm and final examinations will be held **in person** unless health orders recommend moving to online instruction. In the event where a student must miss the midterm, the student is required to inform the instructor at the earliest possible time. If a student must miss the midterm with a valid excuse, the marks will be allocated to the final.

FINAL GRADE POLICIES: Final grades will be rounded to the nearest whole number. Only grades within 0.5 of the next whole number will be rounded up (eg. 75.5 becomes 76, 75.4 is 75%). Grade changes will only be permitted if there is a calculation error.

STUDENT RESPONSIBILITIES:

1. **Attend class.** Please come prepared to listen, take notes, and participate in class.
2. Review the course material and related course chapters of the textbook after each class. Reviewing the material multiple times and trying to recall (testing yourself, not just reading) will help solidify your understanding. **Use the quizzes and assignments as study tools.**
3. Use the resources available to you (instructor, textbook, Canvas site) to enhance your learning experience. **Take advantage of the Piazza discussion board.** There are almost 150 students in this course. If you have a question, it is likely that someone else is wondering the same and you will both benefit from a discussion. One of the TAs will be monitoring the discussion board, but students are expected and encouraged to answer each other's questions too.
4. **Find ways to apply the concepts to your own lives and connect them with concepts learned in other courses.** Being invested in the course will help you learn and increase motivation for studying
5. **Do your own work and acknowledge other's ideas.** Academic honesty is a core value of scholarship and is taken very seriously in this course. Failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action. **All** potential cases of academic misconduct will be investigated using the protocol established by the Faculty of Land and Food Systems.

ASSISTANCE AVAILABLE TO STUDENTS:

You are strongly encouraged to meet with the instructor during office hours if you have questions, comments, or suggestions for the course. You can also post questions about course material on the discussion board for your fellow students and TAs.

COVID SAFETY:

UBC no longer requires students, faculty and staff to wear non-medical masks, but continue to recommend that masks be worn in indoor public spaces.
Please complete a daily self-assessment for Covid-19 symptoms here: https://bc.thrive.health/covid19/en. If you are sick, it is important that you stay home. Lectures will be available for you to watch online. If you need to miss the exam due to COVID-19, please contact the instructor as soon as possible.

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UNIVERSITY POLICIES:

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available on the UBC Senate website (https://senate.ubc.ca/policies-resources-support-student-success).

Academic honesty is a core value of scholarship. Cheating and plagiarism (including both presenting the work of others as your own and self-plagiarism), are serious academic offences that are taken very seriously in the Faculty of Land and Food Systems. By registering for courses at UBC, students have initiated a contract with the University that they will abide by the rules of the institution. It is the student's responsibility to inform themselves of the University regulations.
Definitions of Academic Misconduct can be found on the following website:
http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,54,111,959#10894

Studying with others or discussing issues with them is completely legitimate and is encouraged; however, collaborating with others while completing quizzes or exams is not, nor is informing others of what the questions were. Both providing this information to someone else, or using that information, are considered cheating and would constitute academic misconduct. Please be aware that plagiarism or cheating of any kind will be cause for "no credit" on the assignments and possible failure in the course.

COURSE TOPICS AND SCHEDULE

DATE	TOPICS	TEXTBOOK READINGS	ASSESSMENTS
Sept 8	**Introduction** and Digestion & Absorption Review		
Sep 13 – 29	**Carbohydrates** – Structures, Functions, Food Sources, Digestion & Absorption, Transport, Glucose homeostasis, Metabolism **Fibre**: Definition, Properties, Physiological effects and Role in chronic disease prevention	**Chapter 3, 4**	**Quiz 1** *released Sept 15,* *due Sept 22 11:59 pm* **Assignment 1** *released Sept 27,* *due Oct 4 11:59 pm* **Quiz 2** *released Sept 29,* *due Oct 6 11:59 pm*
Oct 4 - 20	**Lipids & Alcohol:** Properties and Classification, Digestion & Absorption, Transport, Blood lipid profiles, Omega-3 fatty acids, Metabolism	**Chapter 5**	**Quiz 3** *released Oct 13 due Oct 20 11:59 pm* **Assignment 2** *released Oct 20,* *due Oct 27 11:59 pm*
Oct 25	**MIDTERM EXAM** – IN CLASS		
Oct 27 – Nov 15	**Proteins**: Structure and Functions, Digestion & Absorption, Intestinal metabolism, Anabolism, Catabolism, Protein Quality **NO CLASS Nov 10 – Midterm Break**	**Chapter 6**	**Quiz 4** *released Nov 3* *due Nov 10 11:59 pm* **Assignment 3** *released Nov 15,* *due Nov 22 11:59 pm*
Nov 17 – Dec 6	**Integrated Metabolism & Energy Balance**	**Chapter 7, 8**	**Quiz 5** *released Nov 22,* *due Nov 29 11:49 pm* **Assignment 4** *released Dec 1, Due Dec 6 11:59 pm*

*Schedule subject to change. Instructor will notify students of any changes via Canvas announcements.