

ACKNOWLEDGEMENT

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəyəm (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 their culture, history, and traditions from one generation to the next on this site.

COURSE INFORMATION

Course Title	Course Code Number	Credit Value
Advances in Human Nutrition	HUNU 550	3

Lecture time and location: Tuesdays 9:00 AM - 10:30 AM - LIFE - Floor 2 - Room 2109

Thursdays 9:00 AM - 11:30 PM - LIFE - Floor 2 - Room 2109

Prerequisites: FNH 250 or equivalent. Introductory biochemistry (e.g. BIOL 201, BIOC 202, or equivalent).

INSTRUCTORS AND CONTACT

Course Instructor(s)	Contact Details	Office Location	Office Hours
Bruna Donatti Castro Falci	Use Canvas email system.	FNH 324	Tuesdays 3:30 - 5:00 pm (in-person)

Teaching Assistant: Chantelle Twynstra

Bruna Donatti Castro Falci

My name is Brunna, and I use she, her, and hers as my [pronouns](#). I am a registered dietitian with 18 years of experience in clinical practice. Teaching has always been one of my greatest passions, and I have had the privilege of working as a lecturer for over a decade. I am excited to guide you through this course, exploring the complex and fascinating world of human health and its intricate connection with the natural environment. I understand that biochemistry can seem daunting for many students, but my goal is to make this course a positive and enriching experience. You will learn how to apply biochemical principles to real-life scenarios that are integral to our daily routines and to the challenges you will face as future dietitians. As your instructor, I am deeply committed to fostering a learning environment where you are not just a passive recipient but an active participant - engaging fully, sharing your insights, and tapping into your creative potential. I am truly passionate about the journey we are about to embark on, and I look forward to learning alongside you. We'll make mistakes (it's all part of the process!), share a lot of laughs, and most importantly, grow together.

When to contact Brunna: Attendance and accommodations; grading after consulting with TA.

How to contact Brunna: Please use CANVAS email system, as it allows me to quickly identify you and your course. Messages are typically answered within 48h (2 business days). Expect longer response time for emails during weekends, and statutory holidays. Please, plan accordingly.

I strongly encourage you to meet with me during office hours if you have questions, comments, or suggestions for the course. If you are unable to attend office hours, please contact me so we can make an alternative arrangement. I am here to support you!

Chantelle Twynstra

Hi everyone, my name is Chantelle (pronouns they/them) and I am a 3rd year student in the Master's of Human Nutrition and Dietetics program. This term I am in my last two practicum placements which are in an outpatient clinic and in liver transplants at VGH! Outside of school, you'll find me playing softball most evenings in the summer and backpacking in the beautiful provincial parks. Don't hesitate to reach out if you have questions, you can reach me at ctwynstr@student.ubc.ca

When to contact Chantelle: Questions about assignments, class activities, class logistics (Canvas related issues, upload assignments, discussions on Canvas).

How to contact Chantelle: ctwynstr@student.ubc.ca

COURSE STRUCTURE

This course will consist of two weekly 80-minute classes, a weekly 50-minute tutorial student-led session, plus outside activities and online learning that is complimentary to course content and is to be done outside of class time.

There is a strong self-directed learning component in this course, including one pre-recorded lectures that will not be covered during class time. Students are responsible for reviewing this material independently. Learning in this course extends beyond what is presented in class: students are strongly encouraged to engage in independent study to broaden their understanding of the content and better prepare for professional practice.

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Understand the physical and chemical properties of macro- and micro-nutrients in major food sources;
2. Explain how macro- and micro-nutrients exert their functions under pathophysiological conditions;
3. Explain how macro- and micro-nutrients are digested, absorbed, metabolized, transported, stored, and excreted from the body under pathophysiological conditions;
4. Discuss metabolic and biochemical bases of nutrient-nutrient interactions and their impact on health;
5. Discuss new advances in physiological functions, digestion, absorptions, and metabolism of macro- and micro-nutrients;
6. Discuss new advances in nutrient-gene interactions and their impact on macro- and micro-nutrient metabolism and physiological functions;
7. Explain how inadequate and excessive intake of macro- and micro-nutrients can cause adverse effects to health;
8. Understand and discuss new advances in energy metabolism and its regulation;

LEARNING MATERIALS

Canvas will be used as the online learning platform for the course. See [Canvas User Resources](#).

REQUIRED LEARNING MATERIALS:

- 1) **Textbook:** Gropper SS, Smith JL, Carr TP (2022). Advanced Nutrition and Human Metabolism. 8th Edition. Cengage Learning.
This textbook is available for purchase through the UBC Bookstore. Older versions are also suitable to the course. 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.

The following materials are provided by the instructor on Canvas, under the respective unit on the "Modules" page

- 2) **Required readings and links to videos** will be posted under each module on Canvas. Required readings are **mandatory** and considered **testable content**, even if not explicitly discussed in class.
- 3) **Additional readings** and links to videos will be posted under each module on Canvas. These readings are provided for further enrichment and to broaden understanding beyond regular class content.
- 4) **HUNU 550 course pack:** A compilation of materials and links to useful websites will be posted as needed on Canvas before and throughout the term

Class slides will be posted ahead of class.

Guest lecture notes/slides will be posted as soon as they are available, if permission is granted by the guest speaker.

LIVE STREAMING AND RECORDED LECTURES

This course is delivered **in person**, with eventual virtual classes to accommodate the needs of instructors and guest lecturers. Lectures are not recorded. Students may record a lecture only with the instructor's prior authorization. Please refer to the **COPYRIGHT** section of the syllabus for further details.

COURSE SCHEDULE

This schedule is tentative and subject to change.

	Date	Topic	Textbook chapter <i>Note that required and additional readings/videos will be posted on Canvas</i>	Deadlines
WEEK 1	02-Sep	Introduction to the Course.		---
	04-Sep	Carbohydrates	Ch. 3	---
		<i>Tutorial: In-class discussion with Bruna</i>		
WEEK 2	09-Sep	Carbohydrates		---
	11-Sep	Fibre	Ch. 4	---
		<i>Tutorial: In-class discussion 1 – CHO, 2 - Fibre</i>		
WEEK 3	16-Sep	Lipids	Ch. 5	---
	18-Sep	Lipids		Review activity 1
		<i>Tutorial: In-class discussion 3 – Lipids, 4 – Lipids</i>		
WEEK 4	23-Sep	Lipids		---
	25-Sep	Proteins	Ch. 6	---
		<i>Tutorial: In-class discussion 5 – Proteins, 6 – Proteins</i>		
WEEK 5	30-Sep	Truth and reconciliation day. No class.		
	02-Oct	Proteins – Guest: James McKendry, PhD		
		<i>Tutorial: Integration of metabolism</i>		
WEEK 6	07-Oct	Integration of metabolism	Ch. 7	
	09-Oct	Integration of metabolism + Review		Review activity 2
		<i>Tutorial: In-class discussion 7 and 8 – Integration of metabolism</i>		
WEEK 7	14-Oct	Midterm		Midterm
	16-Oct	Nutrients for Blood Health	Ch. 10 (Vit K) & Ch. 13 (Iron)	---
		<i>Tutorial: CLASS - Nutrients for Blood Health</i>		
WEEK 8	21-Oct	Nutrients for Blood Health		---
	23-Oct	Methyl Nutrients	Ch. 9 (Vit B12 and folate)	---
		<i>Tutorial: In-class discussion 9 and 10 – Blood health</i>		
WEEK 9	28-Oct	Methyl Nutrients		---
	30-Oct	Methyl Nutrients	DRIs: choline	
		<i>Tutorial: In-class discussion 11 and 12 – Methyl nutrients</i>		
WEEK 10	04-Nov	Vitamins and Energy Metabolism	Ch. 9 (B1, B2, B3, B5, B6, biotin)	Review activity 3
	06-Nov	Vitamins and Energy Metabolism		Case study 1 Hot topics
		<i>Tutorial: Hot topics in energy metabolism presentation</i>		
	11-Nov	Midterm break. No class.		

WEEK 11	13-Nov	Antioxidant Nutrients	Ch. 13 (Zn, Cu, Se), & Ch. 9 (Vit C)	---
		Tutorial: CLASS - Antioxidant Nutrients		
WEEK 12	18-Nov	Nutrients Game		Nutrients Game
	20-Nov	Antioxidant Nutrients	Ch 10 (Vit A, Vit E)	---
		Tutorial: In-class discussion 13 and 14 - Antioxidants		
WEEK 13	25-Nov	Nutrients for Bone Health	Ch. 11 & Ch 10 (Vit D)	---
	27-Nov	Nutrients for Bone Health		
		Tutorial: In-class discussion 15 and 16 - Antioxidants		
WEEK 14	02-Dec	Nutrients for Bone Health		Evidence-based analysis
	04-Dec	Trace minerals	Ch. 13 & Ch 14	Review activity 4 Case study 2
		Tutorial: In-class discussion 17 – Bone health		
	TBD	FINAL EXAM		

GRADING SCHEME

If desired, you may decide the value the Review Activities, Case Studies, Nutrients Game, Midterm, and/or Final Exam will contribute to your final grade (i.e., choose a value from within the ranges provided). Think about what will be best for you (consider your own learning, your interest level, your schedule, and your other commitments this term).

The “**Proposed Value**” is the standard one: It will promote learning and success for the majority of students, but please take a few moments to decide what would work best for you.

Please note the following instructions:

- To choose your own weights, click on the **Flexible Assessment** link in Canvas. This choice is optional.
- Make sure that the values you decide upon add up to a total grade value of 100%
- **The deadline for this choice is Sep 18th, 2024, 11:59 pm. No changes will be permitted after that date.**
- If you do not select your own weights by the deadline, you will automatically use the **Proposed Value** weights below.

Evaluation Items	Due Date	Proposed value (default)	OR Choose from the ranges below.
Review activities (individual)	Throughout the term	0%	0-10%
Case Studies (individual)	Throughout the term	0%	0-10%
Hot topics in energy metabolism (groups of 2, self-assigned)	Nov 6 th	5%	5%
Evidence-based analysis of Supplements (individual)	Dec 2 nd	10%	10%
Tutorial sessions (groups of 2, assigned by instructor)	Throughout the term	10%	10%
Nutrients Game (groups of 3, assigned by instructor)	Nov 18 th	15%	5-15%
Exams - Midterm (individual)	Oct 14 th	25%	15-30%
Exams - Final exam (individual)	TBD (as per UBC)	35%	30-45%

For group assignments, collaborative work is expected to enhance essential skills for the practice education year.

ASSESSMENTS OF LEARNING

Additional information for each assignment and exams will be discussed in class and posted on Canvas.

REVIEW ACTIVITIES: The review activities will test your understanding of the course material and identify areas that require further review. They are composed of multiple choice, short answer, and open-ended questions. The activities are open-book. Correct answers will be available after the quiz submission deadline.

PROBLEM-BASED CASE STUDIES: Students will complete two case-study assignments. The case studies are open-book. Answer keys for the case studies will not be provided, but will be discussed in-class, if time permits.

HOT TOPICS IN ENERGY METABOLISM: Science is constantly evolving, generating new recommendations to improve our health. This assignment aims to practice searching scientific literature to better understand a topic and improve skills in selecting relevant references, reading scientific articles, and reflecting on them for Dietetics practice.

EVIDENCE-BASED ANALYSIS OF NUTRITIONAL SUPPLEMENTS: This assignment aims to evaluate the scientific evidence on claims associated with a specific dietary supplement. If you are interested, you have the opportunity to submit an infographic based on this assignment to the Canadian Nutrition Society (CNS) in January 2026. The submission of the infographic is optional.

NUTRIENTS GAME: The nutrients game is an in-class quiz that will test your understanding of the course material and identify areas that require further review. They are composed of multiple choice, short answer, and open-ended questions. The activity is closed-book. Answer key will not be provided, but will be discussed in-class during the quiz.

MIDTERM AND FINAL EXAMS: These examinations may include multiple-choice questions, true/false (correct the false) questions, matching questions, short-answer questions, and case studies. These examinations are closed book and must be completed individually.

Exam view: A midterm view will be scheduled to students who have questions about their marks. If any student wishes to request a re-grading, the instructor will assess the entire exam, not just the specific question in question. The re-grading process may lead to adjustments in the marks for any question and, consequently, may result in either an increase or decrease in the student's overall exam grade.

TUTORIAL SESSIONS

Digestion, absorption, and transport // Integration of metabolism

All the activities above will be done during the tutorial sessions in order to provide students with the opportunity to engage with their peers, discuss, and develop materials that will support their studies.

Students will be able to self-sign-up for the groups, limited to 4 students each. Collaborative work is expected to enhance essential skills for the practice education year.

In-class discussions

Every student will be responsible for leading/facilitating a discussion based on the assigned reading(s) for that class. The facilitator will bring a list of questions that are based on the assigned readings. Students assigned as “readers” are expected to have read the required reading and to participate in the discussion.

The topic will be assigned by the instructor, but students will have the opportunity to indicate their preference.

Citations

Please use APA style (7th edition) for citation. Review the following link to learn about APA style:

<https://guides.library.ubc.ca/apacitationstyle>. For more information, please consult with a librarian.

Use of AI tools

The use of generative AI tools, including ChatGPT and other similar tools, to complete or support the completion of any form of assignment or assessment in this course is not allowed and would be considered academic misconduct.

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](#).

OTHER COURSE POLICIES

Attendance and participation: Attendance and participation are mandatory for this course.

Late assignments:

ATTENTION: Please allow yourself extra-time when uploading an assignment or completing a quiz in order to avoid last-minute technological issues.

Review activities and case studies: Late activities will NOT be accepted.

Evidence-based analysis on supplements: For each day your assignment is late (daily deadline is 11:59PM, including weekends), 10% will be deducted from your assignment grade. Assignments will not be accepted more than 5 days past the due date.

Missed assignment: In the event where a student misses the “Nutrients game” or the “Hot topics in Energy metabolism”, documentation must be provided as per faculty and University policies. Please, let your instructor know as soon as possible and provide supporting documentation. The corresponding mark will be allocated to the final exam.

Missed exams: In the case that a student must miss an exam due to unforeseen circumstances, documentation must be provided as per faculty and University policies. The student is required to inform the instructor at the earliest possible time to arrange for a makeup exam, *if possible*. If a makeup exam is not possible, the marks will be allocated to the final exam.

Final grades 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. Final grades are determined using the faculty-specific grading schemes in the [UBC Academic Calendar](#). The [passing grade for MND students](#) is 60%, and only 6 credits of an entire degree may receive grades between 60-68%.

COURSE CONDUCT - STUDENT RESPONSIBILITIES:

1. **Attend and engage in class.** Come prepared to listen, take notes, and participate in class. If you are unable to attend a class, it is your responsibility to be informed of the content discussed in class.
2. **Review the course material and assigned textbook chapters.** Required readings are **mandatory** and considered **testable content**, even if not explicitly discussed in class. Review them thoroughly and integrate them into your understanding of the course material. Students are expected to come prepared, having completed all pre-assigned learning materials, which may include journal articles, practice guidelines, textbook chapters, or videos posted to Canvas. Use the resources available to you to enhance your learning.
3. **Ask questions both in and out of class.** You can post your questions about course content on the Canvas discussion board or bring your questions to the instructor’s office hours.
4. **Connect concepts** from this course to knowledge gained in other courses and your own experiences.
5. Treat your peers and instructors with **respect**, and be open to diverse perspectives and opinions.
6. Use **considerate language** in class and online
7. **Turn off electronic devices** that you are not using for academic purposes.
8. **Be punctual.** Arriving late can disrupt both the instructor and your peers, affecting the flow of the lecture. If you are late (we understand life happens!), please enter the classroom as quietly and discreetly as possible.

DISCUSSION BOARD CONDUCT

The discussion board is a collaborative space for sharing questions and answers, enabling everyone to benefit from collective knowledge and experiences. Congratulations: You found an Easter egg! Send your instructor the picture of a happy animal and you will receive 1 bonus mark (bruna.donatti@ubc.ca).

Expectations for Participation:

1. **Active Engagement:** I encourage all students to actively participate by asking questions and responding to classmates' posts. This fosters a deeper understanding and promotes a sense of community.
2. **Respectful Communication:** Always use respectful language and maintain a positive and supportive tone. This is a space for learning, and creating an environment of mutual respect is essential for effective collaboration.
3. **Anonymity Option:** The discussion board includes an anonymous feature. You can choose to reveal your name and profile picture or remain fully anonymous. Use this feature thoughtfully to contribute meaningfully to discussions.
4. **Instructor Involvement:** The instructors (TAs and course instructor) will monitor the discussion regularly and provide responses on a weekly basis. However, peer-to-peer interaction is highly encouraged as it enhances learning for everyone. **Please note: It is common for students to post last-minute questions before exams. While instructors will do their best to respond, we cannot guarantee that the discussion board will be monitored after 5:00 PM on the day before an exam or during weekends and statutory holidays. Please plan accordingly.**
5. **Course Content Questions:** Questions related to course content will not be answered through private messages or emails. All course-related questions must be posted on the discussion board to ensure that everyone can benefit from the shared questions and answers.

Benefits of Participation:

Helping and teaching your peers can reinforce your own understanding and learning. By explaining concepts or answering questions, you gain deeper insights into the material. Let's work together to create an engaging, respectful, and supportive learning space!

TOOLS TO SUPPORT YOUR LEARNING

A variety of tools and resources are available to help you succeed in this course. These include:

1. Instructor Support

Weekly in-person office hours

You are always welcome to contact me with any questions or concerns. When my schedule allows, I'm also available for ongoing Q&A before and after class.

2. Course Materials

Required textbook

Additional and required readings and videos, as outlined on Canvas

3. Canvas Course Site

Central hub for lecture slides, announcements, readings, and assignment submission

Discussion board

4. Assessment Tools and Study Aids

Midterm and final exam practice quiz

Regular assignments

5. Review sessions and extra office hours

Extra office hours dedicated to the exams will be scheduled throughout the term.

Review sessions with the instructor will be held prior to the midterm and final exams. Dates and times will be determined based on the instructor's availability and a student survey.

Please don't hesitate to reach out - The TAs and I are here to support you every step of the way!

ACADEMIC INTEGRITY

Academic honesty is a core value of scholarship. Any form of academic dishonesty will not be tolerated. Refer to the [UBC Calendar](#) to learn about UBC disciplinary actions for academic misconduct. The [UBC Academic Integrity Resource Centre](#) provides tips on avoiding plagiarism, FAQs, tutorials and other resources related to academic integrity. It is the student's responsibility to inform themselves of the University regulations and act appropriately, particularly when completing online exams and assignments.

ACCOMODATIONS AND DISABILITIES

If you have special needs, please bring these to my attention before or at the first class of the term. I will make every effort to accommodate your requirements in the classroom. For additional support to enhance your educational experiences, [UBC Centre for Accessibility](#) works with students, faculty and staff to ensure a safe and secure learning environment for students living with long-term disabilities.

EQUITY, DIVERSITY, INCLUSION, AND INDIGENEITY

This course is designed to support and serve students from diverse backgrounds and perspectives. The diversity you contribute is recognized as a valuable resource, strength, and benefit to our learning community.

I am committed to cultivating a classroom environment where students of all backgrounds and identities feel safe and empowered to share their perspectives and experiences on various topics throughout the course.

I acknowledge that understanding diverse perspectives and identities is an ongoing learning process. If anything is said or done in class that makes you or others feel uncomfortable, I strongly encourage you to bring it to my attention. Your feedback on how we can further enhance inclusivity within our course is highly valued. This feedback can be shared through meetings, email, or anonymously through our course platform. I am dedicated to addressing any concerns that arise and making meaningful changes as needed.

For further information, please refer to our departmental [EDI.I webpage](#).

LEARNING ANALYTICS

Learning analytics includes the collection and analysis of data about learners to improve teaching and learning. Many of these tools capture data about your activity and provide information that can be used to improve the quality of teaching and learning. In this course, I plan to use analytics data to view overall class progress, and review statistics on course content being accessed to support improvements in the course.

COPYRIGHT

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<https://copyright.ubc.ca/why-should-i-care/>