



School of Natural Sciences and Mathematics

Department of Biology

BI-410 Advanced Human Physiology I

Monday, Wednesday & Friday 10:30–11:20 am | Eiben Hall, room 120

Credits: 3 | Section: 01 | Term: Fall Semester 2026

Instructor Information

Instructor	Michael Weichhaus, PhD
Email	michael.weichhaus@chaminade.edu
Phone	808.440.4286
Office Location	Wesselkamper Science Center, room 107
Office Hours	Monday, Wednesday & Friday: 12:00–2:00 pm Tuesday & Thursday: 1:00–2:00 pm
Office Hours Sign-Up	Office hours run on a sign-up system. Book a slot at: https://calendar.app.google/6x3kd3fb4F6yMmvUA When you sign up you choose whether to meet in person in Wesselkamper 107 or online via Google Meet; the meeting link is generated automatically with your booking.

Communication

Instructions and updates are given verbally during class and are also posted using the Announcements feature in Canvas. Questions about this course may be emailed to the instructor or sent through the Canvas Inbox. You can expect a response within 24–48 hours on weekdays (Monday–Friday); messages sent over the weekend or a holiday will be answered on the next business day. For questions that need a longer conversation, please book an office-hours slot rather than email.

School & Department

School	School of Natural Sciences and Mathematics
Location	Wesselkamper Science Center, room 115
Phone	(808) 440-4204
Questions?	If you have questions regarding the Department of Biology, reach out to your instructor or the School of Natural Sciences and Mathematics.

Course Description & Materials

Catalog Description

Physiology of energetic and metabolic processes and endocrine control of metabolism in both healthy and disease states. Biochemistry of metabolism and the role of macro- and micronutrients in maintenance of homeostasis are examined.

Pre-Requisites: EN 102, COM 101, BI 307, BI 307L.

BI-410L Advanced Human Physiology I Lab is the companion laboratory course and is normally taken in the same semester.

Course Snapshot

Modality	Face-to-Face
Meeting Location	Eiben Hall, room 120
Meeting Days/Times	Monday, Wednesday and Friday, 10:30–11:20 am
Time Commitment	Three-credit course requiring 135 clock hours of student engagement per the CUH Credit Hour Policy — approximately 9 hours per week including class time, reading, chapter quizzes, case studies, essays and assessments.
Required Materials	MindTap (Cengage): Gropper, Advanced Nutrition and Human Metabolism (ISBN 978-0-357-45001-7) — digital subscription required. Access it through Canvas: go to Module 1, click a "Knowledge Check" item and follow the prompts to create your Cengage account. A second edition of the textbook is available in the library (Catalog: QP141 .G76). Respondus LockDown Browser — required for every exam and for the pre- and post-course quizzes.
Canvas	Course materials, announcements, and grades are posted to Canvas (chaminade.instructure.com). Check Canvas regularly — it is the official channel for this course.
Final Exam	Wednesday, December 9, 2026, 11:00 am–1:00 pm, per the Fall 2026 Final Exam Schedule.
Semester Dates	Instruction: August 17 – December 4, 2026 Labor Day (no classes): Monday, September 7 Fall Wellness Week (no classes): October 12–16 Veterans Day (no classes): Wednesday, November 11 Thanksgiving recess (no class Friday): November 27 Final examinations: December 7–11, 2026

Time Allocation

This is a three-credit course requiring 135 clock hours of student engagement, per the official CUH Credit Hour Policy. Estimated distribution:

- Seat time: 35 h (50 min MWF; 42 meetings, after Labor Day, Fall Wellness Week, Veterans Day and the day after Thanksgiving are removed)
- Writing assignments: 22.5 h (3 × 7.5 h)
- Mid-term exams, including study time: 22.5 h (3 × 7.5 h)
- Final exam, including study time: 15 h
- Micronutrient presentation: 15 h
- Reading: 12.5 h (50 min per week)
- Chapter quizzes and case studies: 12.5 h (50 min per week)

Total: 135 hours.

LockDown Browser Requirement

This course requires Respondus LockDown Browser for all three mid-term exams, the final exam, and the pre- and post-course assessment quizzes. Download and install it from the link posted in Canvas before the first exam. You will not be able to open an exam that requires LockDown Browser in a standard web browser.

When taking an exam, follow these guidelines:

- Know how much time is available and allow enough time to complete the exam.
- Turn off all mobile devices and phones, and keep them out of reach.
- Clear your area of all external materials — books, papers, other computers or devices.

- Remain at your workstation for the duration of the exam.
- LockDown Browser prevents access to other websites and applications; you cannot exit the exam until all questions are completed and submitted.

Help: use the "Help Center" button on the LockDown Browser toolbar and its System & Network Check, or visit support.respondus.com.

Learning Outcomes

Program Learning Outcomes (PLOs)

Upon completion of the program in Biology, a graduating student will demonstrate the following competencies:

- Explain fundamental biological concepts and their interrelationships across various levels of biological organization, from molecules to ecosystems, including cell biology, genetics, evolution, physiology, and ecology.
- Perform laboratory, field and computational techniques relevant to biological research, including accurate data collection, analysis, and interpretation.
- Design and conduct scientific investigations using advanced methodologies, technologies, and resources, and effectively communicate results to professional and lay audiences.
- Make ethically informed decisions in biological research and practice, considering bioethics and environmental ethics informed by indigenous and traditional knowledge and practices.
- Analyze societal challenges related to health and the environment through the lens of biological science, recognizing how biological knowledge and associated career paths can contribute to studying, addressing and solving these challenges.

Course Learning Outcomes (CLOs)

Upon completion of BI-410 Advanced Human Physiology I, the student will be able to:

- Distinguish between micro- and macronutrients and their role in the human organism.
- Describe the anatomical and biochemical process of nutrient processing.
- Explain the metabolism of macronutrients for energy and body composition.
- Assess the regulatory processes of nutrient homeostasis in the human body.
- Analyze and evaluate the pathophysiology, etiology, and contemporary treatment approaches of various digestive and metabolic diseases such as celiac disease, liver disease, and eating disorders.

Your achievement of these outcomes is measured directly: the pre-course quiz (week 1) and the post-course quiz (week 15) each contain ten questions per CLO — questions 1–10 address CLO 1, 11–20 CLO 2, and so on. These two quizzes do not count toward your grade; they exist so the programme can measure how much you gained over the semester.

Marianist Values

This class represents one component of your education at Chaminade University of Honolulu. An education in the Marianist Tradition is marked by five principles, and you should take every opportunity to reflect on the role of these characteristics in your education and development:

- Education for formation in faith.
- Provide an integral, quality education.
- Educate in family spirit.
- Educate for service, justice and peace, and integrity of creation.
- Educate for adaptation and change.

Advanced Human Physiology integrates the Marianist commitment to providing an integral, quality education by deeply exploring the essential aspects of human nutrition and metabolism. Through a combination of lectures, presentations, and collaborative learning activities, students engage in critical analysis and evaluation of complex physiological processes and contemporary treatment approaches for metabolic diseases. This rigorous academic environment fosters intellectual growth and prepares students to adapt to and address emerging challenges in health science, reflecting the Marianist value of educating for adaptation and change. By encouraging self-directed learning and peer-reviewed assignments, the course promotes a community of learners dedicated to the pursuit of knowledge and excellence, embodying the spirit of family and collective responsibility inherent in the Marianist tradition.

Native Hawaiian Values

Education is an integral value in both Marianist and Native Hawaiian culture. Both recognize the transformative effect of a well-rounded, value-centered education on society, particularly in seeking justice for the marginalized, the forgotten, and the oppressed, always with an eye toward God (Ke Akua). This is reflected in the following 'Ōlelo No'eau:

- Educate for Formation in Faith (Mana): E ola au i ke akua ('Ōlelo No'eau 364) — May I live by God.
- Provide an Integral, Quality Education (Na'auao): Lawe i ka ma'alea a kū'ono'ono ('Ōlelo No'eau 1957) — Acquire skill and make it deep.
- Educate in Family Spirit ('Ohana): 'Ike aku, 'ike mai, kōkua aku kōkua mai; pela iho la ka nohana 'ohana ('Ōlelo No'eau 1200) — Recognize others, be recognized, help others, be helped; such is a family relationship.
- Educate for Service, Justice and Peace (Aloha): Ka lama kū o ka no'eau ('Ōlelo No'eau 1430) — Education is the standing torch of wisdom.
- Educate for Adaptation and Change (Aina): 'A'ohe pau ka 'ike i ka hālau ho'okahi ('Ōlelo No'eau 203) — All knowledge is not taught in the same school.

Alignment of Course Learning Outcomes

	CLO 1	CLO 2	CLO 3	CLO 4	CLO 5
Marianist Values	2	2	2	5	4
PLOs	1	1, 2	1, 3	1, 3	4, 5
Native Hawaiian Values	2	2	5	5	3, 4

Attendance & In-Class Participation

Attendance Policy

Students are expected to attend regularly all courses for which they are registered. Students should notify their instructor when illness or other extenuating circumstances prevent them from attending class, and make arrangements to complete missed work. Notification may be done by emailing the instructor directly or by calling the school office. It is the instructor's prerogative to modify deadlines of course requirements accordingly. Any student who stops attending a course without officially withdrawing may receive a failing grade.

Federal regulations require continued attendance for continued payment of financial aid. When illness or personal reasons necessitate continued absence, the student should communicate first with the instructor and then with the appropriate school office.

Students with disabilities who have obtained accommodations from Accessibility Services may be considered for an exception when the accommodation does not materially alter the attainment of the learning outcomes.

In-Class Participation Expectations

Active, respectful engagement is essential. Students are expected to come prepared and contribute meaningfully to discussions, activities, and collaborative work.

Students are expected to:

- Come prepared — complete readings and activities before each session.
- Participate actively in discussions and group work, demonstrating critical thinking.
- Engage respectfully and honor diverse perspectives.
- Use personal devices for course purposes only unless otherwise directed.
- Submit work by established deadlines to support course pacing.

Participation in this course is expected in every class meeting. Much of the material — particularly the metabolic pathways — is developed on the board and through worked examples, and is difficult to reconstruct from slides alone. Attendance is also assessed indirectly: the three mid-term exams, the final exam, and the micronutrient presentations all take place during scheduled class time.

Course Activities

Micronutrient Presentation	You will prepare and deliver a presentation on the function of a selected micronutrient and its cultural significance. The presentation should demonstrate a deep understanding of the nutrient's physiological role, supported by current research and scientific literature, and should situate that nutrient in a dietary and cultural context. Presentations run in class alongside the vitamin and mineral modules (weeks 11–15); sign up for a slot using the link in the Canvas course home page. Presentations must be original and properly cited, and you are expected to participate actively during your classmates' presentations. Assessment covers content accuracy, delivery, and your ability to answer questions from the audience.
Mid-Term Exams	Three mid-term exams are written in class using Respondus LockDown Browser. Exam 1 covers the digestive tract and carbohydrate metabolism (Modules 1–3); Exam 2 covers lipids and protein (Modules 5–6); Exam 3 covers the integration and regulation of metabolism and body composition (Modules 7–8). A study guide for each exam is posted in the corresponding Canvas module. Exams are closed-book and must be completed individually within the allotted time.
Final Exam	The final exam is cumulative, with the main emphasis on the material not already assessed by a mid-term — the vitamins, minerals and trace elements of Modules 9–14. It is a closed-book, timed assessment written in the scheduled final exam slot.
Writing Assignments	Three essays are assigned across the semester: Celiac Disease, Liver Disease, and Eating Disorders. Each asks you to analyse the pathophysiology of a condition and evaluate contemporary approaches to its management, supported by scientific evidence. Essays must be original, well-researched and properly referenced. Essays are assessed against the assignment instructions and the posted rubric, and against nothing else — if a criterion is not in the instructions or the rubric, it does not affect your grade. Because there are no resubmissions, the feedback you receive is summative: it explains the grade you earned and what would have earned more.
Chapter Quizzes	Each module carries an "Apply It" chapter quiz in MindTap that reinforces the reading. Quizzes close Sunday at 11:59 pm in the week shown on the schedule. Use them as self-assessment — they are designed to check both foundational knowledge and your ability to apply it.
Case Studies	Each module also carries an "Apply It" case study that applies physiological knowledge to a realistic scenario. Responses should be well reasoned and grounded in course content. Case studies close on the same Sunday deadline as the chapter quiz.
Pre- and Post-Course Quizzes	You will sit a pre-course quiz in week 1 and a post-course quiz in week 15, both using LockDown Browser. Neither counts toward your grade. They measure how far the class has moved on each of the five course learning outcomes, and they are most useful — to you and to the programme — if you answer them honestly rather than guessing.

Course Policies

Late Work — Essays	Up to 24 hours late: 5% deduction. Between 24 hours and 7 days late: 10% deduction. More than 7 days late: not accepted; a grade of zero is recorded. The deduction is applied to the final essay grade; the rubric scores themselves are not altered, so you can still see how the work was assessed on its merits.
Late Work — Quizzes and Case Studies	Chapter quizzes and case studies close at the posted deadline. If a technical problem prevents you from submitting, contact the instructor before the deadline.
Make-Up Exams	Make-up exams are allowed only when a documented physician's note evidences a legitimate medical reason for missing the exam period. It is your responsibility to communicate with the instructor as soon as possible regarding illness or a medical emergency.
Presentations	Missed presentations cannot be made up except in the case of illness documented by a physician. Plan accordingly — your slot is fixed once you sign up.
Communication & Extensions	If you anticipate needing an extension, it is your responsibility to communicate that need as early as possible. Failure to communicate will result in late penalties being applied. Meeting deadlines is a professional expectation, and planning is critical to your success in this course. In extraordinary circumstances, additional considerations may be made at the instructor's discretion — please communicate honestly and promptly.
Incomplete Grade	Students and instructors may negotiate an incomplete grade when there are specific justifying circumstances. An Incomplete Contract (available from the Divisional Secretary and the Portal) must be completed. When submitting a grade, the "I" will be accompanied by the alternative grade that will automatically be assigned after 90 days (IB, IC, ID, IF); if only an "I" is submitted the default grade is F. The work must be completed, evaluated and reported within 90 days after the end of the semester. This limit is unlikely to be extended.
Syllabus Changes	While the provisions of this syllabus are as accurate and complete as possible, the instructor reserves the right to change any provision at any time. Changes will be announced in class and posted to Canvas.

Final Grades

Your current grade is updated frequently and can be viewed in Canvas. Final grades are submitted to Self-Service (selfservice.chaminade.edu).

Grade Weighting

Component	Weight
Micronutrient Presentation	15%
Exam 1	15%
Exam 2	15%
Exam 3	15%
Final Exam	20%

Component	Weight
Writing Assignments (3 essays, combined)	10%
Chapter Quizzes	5%
Case Studies	5%
Total	100%

The pre-course and post-course quizzes are ungraded and carry no weight.

Grading Scale

Grade	Range
A	90% and above
B	80–89%
C	70–79%
D	60–69%
F	59% and below

What the Letter Grades Mean

A — Outstanding scholarship and an unusual degree of intellectual initiative.

Reflects mastery of the course material and an exceptional ability to synthesize and apply knowledge creatively, with critical thinking, originality, and precision in argument and interpretation. Work at this level goes beyond mere accuracy and skillfulness.

B — Superior work done in a consistent and intellectual manner.

Represents strong understanding and application of course concepts, theories, and principles. Work is consistently thorough and well organized, demonstrating analytical ability and clear communication.

C — Average grade indicating a competent grasp of subject matter.

Denotes satisfactory comprehension with the ability to apply key concepts, but may lack depth in understanding or application. Meets the basic course requirements.

D — Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite coursework.

Reflects limited understanding and minimal engagement with key concepts. Work is often incomplete, superficial, or lacks cohesion.

F — Failed to grasp the minimum subject matter; no credit given.

Signifies a lack of basic comprehension and an inability to apply or articulate fundamental concepts. Students receiving an "F" must re-take the course or an equivalent to obtain credit.

Important Information

Academic Honesty

Academic honesty is an essential aspect of all learning, scholarship, and research. It is one of the values regarded most highly by academic communities throughout the world. Violations of the principle of academic honesty are extremely serious and will not be tolerated.

Students are responsible for promoting academic honesty at Chaminade by not participating in any act of dishonesty and by reporting any incidence of academic dishonesty to an instructor or to a University official. Academic dishonesty may include theft of records or examinations, alteration of grades, plagiarism, and unauthorized and/or undisclosed AI usage, in addition to more obvious dishonesty. See catalog section Student Use of Artificial Intelligence in Academic Work for further information.

Questions of academic dishonesty in a particular class are first reviewed by the instructor, who must make a report with recommendations to the Director of the Academic College. Punishment for academic dishonesty will be determined by the instructor, Director, and the Dean of Academic College and may include an “F” grade for the work in question, an “F” grade for the course, academic notice, or dismissal from the University.

AI (Artificial Intelligence) Statement

Chaminade University recognizes the increasing role of artificial intelligence (AI) technologies in academic and professional environments. AI encompasses, but is not limited to, generative AI platforms, automated writing or content generation software, coding assistants, and similar tools. Students must ensure all submitted work genuinely reflects their knowledge and effort. Using AI to produce or significantly complete graded assignments, exams or other academic tasks – defined as use that substitutes for or substantially replaces a student’s own analysis, reasoning or written expression – without explicit instructor approval is considered academic misconduct and will be dealt with according to the University’s Academic Honesty Policy.

If an instructor has reasonable grounds to question whether submitted work genuinely reflects a student’s own knowledge, authorship, or mastery of course material — or whether it meets the course’s expectations for AI use — the instructor may require the student to provide additional or alternative evidence of authorship and content mastery. Such evidence may include drafts, notes, revision history, source materials, process explanations, oral discussion, in class work, or completion of an alternative assessment. A student’s refusal or inability to provide such evidence may be considered, along with other available information, in evaluating whether the work meets course requirements and stated learning outcomes. Instructors will not rely solely on AI detection software or other automated tools in making grading or academic integrity determinations. Such determinations will be based on the totality of the available information and handled in accordance with applicable University policies and procedures. See the catalog section Student Use of Artificial Intelligence in Academic Work for further information.

Title IX and Nondiscrimination

Chaminade University of Honolulu is committed to providing a learning, working and living environment that promotes the dignity of all people, inclusivity and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. For pregnant and parenting students, I am also obligated to provide you with similar resources for support and protections available to you. My goal is to make sure that you are aware of the range of options available to you and have access to the resources and support you need. Contact information and reporting options: chaminade.edu/titleix/nondiscrimination/. File a report via the Campus Incident Report Form.

Nondiscrimination Policy and Notice of Nondiscrimination

The university is committed to comply with all State and Federal statutes, rules, and regulations which prohibit discrimination. The university is committed to a policy of nondiscrimination on the basis of race, sex, gender identity and expression, age, religion, color, national origin (including shared ancestry and ethnic characteristics), ancestry, citizenship, disability, genetic information, marital status, breastfeeding, arrest and court record (except as permissible under State law), sexual orientation, or status as a covered veteran. Inquiries about Title IX or general Civil Rights concerns may be referred to the University’s Title IX Coordinator, the U.S. Department of Education’s Office for Civil Rights, or both and contact information may be found [HERE](#). On-campus Confidential Resources may also be found here at [CAMPUS CONFIDENTIAL RESOURCES](#).

The University’s Nondiscrimination Policy and Grievance Procedures can be located on the University webpage at: <https://chaminade.edu/compliance/title-ix-nondiscrimination-policies-procedures/>.

To report information about conduct that may constitute sex discrimination or make a complaint of sex discrimination under Title IX, please refer to the Campus Incident Report form. Chaminade University of Honolulu prohibits sex discrimination in any education program or activity that it operates.

The NOTICE of NONDISCRIMINATION can be found here: [Notice of Nondiscrimination](#).

Student with Disabilities Statement — Kōkua ‘Ike

Accessibility Services recognizes disability as a valued aspect of diversity and ensures equal access to the educational environment in accordance with Section 504 of the Rehabilitation Act; the Americans with Disabilities Act, as amended; and the principles and professional standards of the Association on Higher Education and Disability. Access is supported through reasonable accommodations and referrals to campus and community resources.

Appointments with the Accessibility Services Coordinator are available through Stellic at <https://chaminade.stellic.com> and may be held virtually or in person. Drop-in appointments are also welcome.

Students seeking support must meet with the Accessibility Services Coordinator as early as possible, even if they are unsure whether they have appropriate documentation of their disability or its impacts. The Accessibility Services Coordinator prioritizes listening to students's experiences and will discuss any documentation needs during the initial intake meeting. Students may seek support at any time.

Learn more at <https://chaminade.edu/ada-accommodations>

Assessment of Student Work

With the goal of continuing to improve the quality of educational services offered to students, Chaminade University conducts assessments of student achievement of course, program, and institutional learning outcomes. Student work is used anonymously as the basis of these assessments, and the work you do in this course may be used in these assessment efforts.

Campus Resources & Support Services

The following resources are available to all Chaminade students. Reach out early — these services exist to support your success.

Resource	Description	Contact / Website
Accessibility Services (Kōkua ‘Ike)	Accommodations under Section 504 and ADA. Contact early — appointments via Stellic, virtual or in person.	ada@chaminade.edu chaminade.edu/ada-accommodations
Tutoring & Academic Coaching (Kōkua ‘Ike)	Tutoring and Academic Coaching Services support students' progression toward their academic, personal, and professional goals with clarity and intention. Services include individualized support in English, math, nursing, sciences, and social sciences, as well as guidance in developing goals and study strategies.	chaminade.edu/tutoring-academic-coaching-services
Career Services	Career Services supports students throughout their career journeys. Services include individualized job search strategy coaching, resume reviews, job interview coaching, and access to career-related resources and opportunities.	chaminade.edu/career-services
Basic Needs Resources	Support for food insecurity, housing instability, and other basic needs.	chaminade.edu/basic-needs/
Title IX / Nondiscrimination	Reporting and support for sex discrimination and gender-based violence. Campus Incident Report Form available online.	chaminade.edu/titleix/resources-and-support/

Resource	Description	Contact / Website
Hazing Prevention	Confidential support, crisis intervention, and reporting for any type of abuse including hazing.	hazingpreventionnetwork.org/athlete-helpline/
Campus Safety / SafeSwords	Security escort service for anyone who feels unsafe walking alone on campus at any time of day. Call security and a professional will escort you to your destination.	chaminade.edu/student-life/security/campus-safeswords-program/
CUH Alert Emergency Notification	Emergency text system. Register your cell number via the Chaminade portal and confirm the text to complete enrollment.	chaminade.edu

Weekly Course Schedule

Note: the instructor reserves the right to modify this schedule. Changes will be announced in class and posted to Canvas. All Canvas deadlines are Hawai'i time. Chapter quizzes and case studies close Sunday at 11:59 pm; exams are written in class.

Wk of	Module / Theme	Topics (Mon / Wed / Fri)	Due Dates
1 Aug 17	Module 1 The Cell	M Syllabus and course overview; review of cellular organisation W Organelles and the compartmentation of metabolism F Membranes, transport and cell signalling Reading: Ch. 1	Pre-course quiz — Wed Aug 19 (in class) Ch. 1 Case Study + Quiz — Sun Aug 23
2 Aug 24	Module 2 Digestive Tract	M Overview of the GI tract; structure of the gut wall W Digestion and absorption along the tract F Hormonal and neural regulation of digestion Reading: Ch. 2	Ch. 2 Case Study + Quiz — Sun Aug 30
3 Aug 31	Module 3 Carbohydrates	M Classes of dietary carbohydrate; digestion and absorption W Glycolysis F The tricarboxylic acid cycle Reading: Ch. 3	Essay 1 — Celiac Disease — Sun Sep 6
4 Sep 7	Module 3 (continued)	M Labor Day — no class W Electron transport chain and oxidative phosphorylation F Hormonal regulation of glucose homeostasis; Exam 1 review	Ch. 3 Case Study + Quiz — Sun Sep 13
5 Sep 14	Exam 1 Module 4: Fiber	M EXAM 1 (in class) — Modules 1– 3 W Dietary fiber: classification, structure and physical properties F Fiber, the gut microbiome and health implications Reading: Ch. 4	Exam 1 — Mon Sep 14 (in class) Ch. 4 Case Study + Quiz — Sun Sep 20

Wk of	Module / Theme	Topics (Mon / Wed / Fri)	Due Dates
6 Sep 21	Module 5 Lipids	M Classes of dietary lipid; fatty acid structure W Lipid digestion and absorption F Lipoproteins and lipid transport Reading: Ch. 5	Ch. 5 Case Study + Quiz — Sun Sep 27
7 Sep 28	Module 5 (continued)	M Fatty acid oxidation W Ketogenesis and the use of ketone bodies F Circulating lipids and cardiovascular disease risk	No Canvas deadlines this week
8 Oct 5	Module 6 Protein	M Amino acid structure; protein digestion and absorption W Amino acid metabolism and nitrogen balance F Functional roles of protein; nitrogen-containing non-proteins Reading: Ch. 6	Ch. 6 Case Study + Quiz — Sun Oct 11 Essay 2 — Liver Disease — Sun Oct 11
— Oct 12	Fall Wellness Week	No classes — Fall Wellness Week (October 12–16)	No classes, no deadlines
9 Oct 19	Exam 2 Module 7: Integration	M Exam 2 review W EXAM 2 (in class) — Modules 5–6 F Integration of metabolism I: the fed and post-absorptive states Reading: Ch. 7	Exam 2 — Wed Oct 21 (in class) Ch. 7 Case Study + Quiz — Sun Oct 25
10 Oct 26	Modules 7–8 Body Composition	M Integration of metabolism II: fasting and starvation W Measuring body composition F Energy expenditure and energy balance Reading: Ch. 8	Ch. 8 Case Study + Quiz — Sun Nov 1
11 Nov 2	Module 9 Water-soluble Vitamins	M Thiamin, riboflavin and niacin W Vitamin B6, pantothenic acid and biotin F Folate and vitamin B12: one-carbon metabolism Reading: Ch. 9 Micronutrient presentations begin (dates by sign-up)	Ch. 9 Case Study + Quiz — Sun Nov 8 Essay 3 — Eating Disorders — Sun Nov 8
12 Nov 9	Module 10 Fat-soluble Vitamins	M Vitamin C; deficiency syndromes of the water-soluble vitamins W Veterans Day — no class F Vitamins A and D Reading: Ch. 10 Micronutrient presentations (in class)	Ch. 10 Case Study + Quiz — Sun Nov 15

Wk of	Module / Theme	Topics (Mon / Wed / Fri)	Due Dates
13 Nov 16	Module 11 Major Minerals Exam 3	M Vitamins E and K W Calcium, phosphorus and magnesium F EXAM 3 (in class) — Modules 7–8 Reading: Ch. 11 Micronutrient presentations (in class)	Exam 3 — Fri Nov 20 (in class) Ch. 11 Case Study + Quiz — Sun Nov 22
14 Nov 23	Module 12 Water and Electrolytes	M Sodium, potassium and chloride; fluid balance W Acid–base balance and water homeostasis F Day after Thanksgiving — no class Reading: Ch. 12 Micronutrient presentations (in class)	Ch. 12 Case Study + Quiz — Sun Nov 29
15 Nov 30	Modules 13–14 Trace Elements	M Iron, zinc and copper W Selenium, iodine and chromium F Non-essential and ultratrace elements; course review Reading: Ch. 13–14 Last day of instruction: Friday Dec 4	Post-course quiz — Wed Dec 2 (in class) Ch. 13 + Ch. 14 Case Studies + Quizzes — Sun Dec 6
Finals Dec 7–11	Final Examination	Cumulative examination, with emphasis on Modules 9–14 (vitamins, minerals and trace elements)	FINAL EXAM — Wednesday, December 9 11:00 am–1:00 pm