



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

**FNH 161: INTEGRATED PHYSIOLOGY FOR HUMAN NUTRITION II (3 credits)**

**ACKNOWLEDGMENT:**

UBC's Point Grey Campus is located on the 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 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: **On Zoom by appointment, please use the Canvas calendar to book**  
For questions related to course content, please post on **Piazza (discussion board available on Canvas)**.  
For confidential questions, the instructor can also be reached at via the **Canvas email tool**

**TEACHING ASSISTANTS:**

Taylor Bailey – Graduate Student, Human Nutrition  
Shreya Anand – Undergraduate Student, Food, Nutrition & Health  
Khanh Minh Nguyen – Graduate Student, Nutrition and Dietetics  
Priyal Tailor – Graduate Student, Nutrition and Dietetics

**LECTURE TIME & LOCATION:**

Tuesdays & Thursdays, 12:30 - 2:00 PM  
CHEM D300

**PREREQUISITES:** FNH 160

**COURSE DESCRIPTION:**

Basic principles in human physiology, including function of the cardiovascular, immune, respiratory, urinary and reproductive systems, integration across systems, maintenance of homeostasis, and application to human nutrition

**LEARNING OBJECTIVES:**

1. **Understand** the basic anatomy and physiology of the cardiovascular, lymphatic and immune, respiratory, urinary, and reproductive systems.
2. **Describe** the role of the urinary and respiratory systems in acid base balance
3. **Explain** how integration across the body systems is necessary for normal body processes and maintenance of homeostasis and health
4. **Apply** knowledge to real-life cases relevant to human nutrition

**COURSE FORMAT:**

This course will be delivered through **3 hours of in-person class time each week**. Classes will include a combination of lectures, demonstrations, and interactive questions and discussions. Online materials, including course notes, practice questions, and discussion boards will be available on Canvas to support your learning.

**COURSE MATERIALS:**

- **Canvas:** The FNH 161 Canvas site will be used as an important learning and communication resource providing lecture slides, quizzes and assignments, discussion boards, and course announcements.
- **iClicker cloud:** Students are required to have an iClicker device (eg. phone, tablet, or laptop) and account registered to their name and student number
- **Recommended textbook:** Sherwood L, Ward C. Human Physiology from Cells to Systems. 5<sup>th</sup> Canadian Ed. 2018. Cengage. Older and US versions are acceptable.

**EVALUATION:**

|   |     |
|---|-----|
| 1. Participation (Clicker)              | 3%  |
| 2. Online quizzes (10 @ 1% each)        | 10% |
| 3. Case studies (3 @ 5% each)           | 15% |
| 4. Homeostasis & Integration Discussion | 7%  |
| 5. Midterm exam                         | 25% |
| 6. Final exam                           | 40% |

**Class participation** will be assessed through iClicker questions posed during class. These can be done in-person or remotely while viewing the class livestream. Students will receive 3 marks for participation in at least 80% of classes, 2 marks for participation in 65-79%, and 1 mark for participation in 50-64% of questions.

**Online quizzes** will be done on Canvas and are designed to test your understanding of concepts and identify areas needing review. Quizzes may include both multiple choice and short answer questions.

**Case studies** will apply course content to scenarios relevant to nutrition. Case studies must be submitted by the dates listed on the course outline.

The **homeostasis & integration** discussion will ask you to choose a disorder, describe how homeostasis is disrupted and how this influences other body systems. You will also be asked to comment on two of your classmates' posts in a small group discussion. Full instructions for all assessments will be available on Canvas.

**Midterm and final examinations:** The examinations will test your understanding of all material covered in class. Both the midterm and final examinations will include multiple choice and short-answer questions. In the event where a student must miss the midterm due to illness, 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.

**Policy on late and missed assessments:** Quizzes and assignments must be completed independently and submitted by the deadlines indicated in the course schedule. Late quizzes will not be accepted, as the answers will be revealed after the closing date. Late assignments will be subject to a 10% deduction per day late. In the event where a student must miss a quiz or case study with a valid excuse, the corresponding mark will be allocated to the final.

### **STUDENT RESPONSIBILITIES:**

1. **Attend and engage in class.** Come prepared to listen, take notes, and participate in class.
2. **Review** the course material before and after class. Use the suggested chapters of the textbook to clarify any unclear concepts. Looking at the material multiple times, and trying to recall (testing yourself, not just reading) will help solidify your understanding.
3. Use the **resources** available to you (instructor, Canvas site, discussion board, textbook, quizzes, and assignments) to enhance your learning.
4. **Ask questions** both in and out of class. You can post your questions about course content on the Piazza discussion board or bring your questions to the instructor's office hours. Please always remain respectful when speaking in class or posting online.
5. **Collaborate** with peers. Create study notes and organize study sessions. Working together increases productivity and problem solving and can make study time more enjoyable. Your peers can also help you catch up if you need to miss a class.
6. **Submit your own work.** Collaboration during class and study time is encouraged but all submitted work must be your own, unless specifically indicated in class. **This also extends to the use of AI tools, including ChatGPT, which may not be used for course assessments.** Academic honesty is a core value of scholarship and is taken extremely 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.
7. **Connect** concepts from this course to knowledge gained in other courses and your own experiences. Try to **apply** what you learn in this course to your own life.

### **ASSISTANCE AVAILABLE TO STUDENTS:**

The instructor is available during office hours if you have questions, or suggestions for the course. You may also post questions about course material on the course Piazza discussion board. Piazza will be monitored by your teaching assistants. Students are also encouraged to answer each other's questions.

### **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 case studies or quizzes 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.**

**COPYRIGHT:** All materials of this course (notes, videos, quizzes, case studies and assessments) are the intellectual property of the Course Instructor or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline.

**COURSE TOPICS AND SCHEDULE\***

| WEEK   | TOPICS   | ASSESSMENT   | TEXTBOOK READINGS |
|--|--|--|-------------------|
| <b>Introduction &amp; Levels of Organization</b> |  |  |                   |
| Jan 7  | <b>Introduction</b> – Course overview. Review of basic concepts from FNH 160.  |  | Review:<br>Ch 1-8 |
| Jan 9 - Feb 4                                    | <b>Cardiovascular system:</b> Anatomy of the heart, electrical activity, cardiac output, vascular physiology, blood.   | <b>Quiz 1:</b> Due Jan 16<br><b>Quiz 2:</b> Due Jan 23<br><b>Discussion 1:</b> Due Jan 28 ( <i>Optional</i> )<br><b>Quiz 3:</b> Due Jan 30<br><b>Case study 1:</b><br>Released Jan 28, Due Feb 4<br><b>Quiz 4:</b> Due Feb 6 | Ch 9-11           |
| Feb 6 - 25                                       | <b>Immune system:</b> External defenses, adaptive and innate immunity.<br><b>Integration:</b> Lymphatic system and immunity<br><br><b>NO CLASS FEB 18 – 20 – Reading Break</b>                         | <b>MIDTERM EXAM:<br/>FEB 11 – In Class</b><br><br><b>Quiz 5:</b> Due Feb 27  | Ch 12             |
| Feb 27 – Mar 6                                   | <b>Respiratory system:</b> Anatomy of lungs, respiration and gas exchange, respiratory volumes<br><b>Integration:</b> Respiration and pulmonary circulation  | <b>Quiz 6:</b> Due Mar 6<br><b>Case study 2:</b><br>Released Mar 4, Due Mar 11   | Ch 13             |
| Mar 11 - 25                                      | <b>Urinary:</b> Anatomy of urinary tract, physiology of waste excretion, fluid and acid base balance<br><b>Integration:</b> Interrelated roles of kidneys and respiratory system in acid base balance. | <b>Quiz 7:</b> Due Mar 13<br><b>Discussion 2:</b> Due Mar 18<br><b>Quiz 8:</b> Due Mar 20<br><b>Quiz 9:</b> Due Mar 27   | Ch 14-15          |
| Mar 27 – April 8                                 | <b>Reproduction:</b> Physiology of female and male reproductive systems, reproduction.<br><b>Integration:</b> Endocrine control of female reproductive system  | <b>Discussion 3:</b> Due April 1<br><b>Quiz 10:</b> Due April 3<br><b>Case study 3:</b><br>Released April 1, Due April 8   | Ch 18             |

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