

Course Outline – FN2230A: Integrated Human Nutrition

School of Food & Nutritional Sciences

FALL 2022

In the event of a COVID-19 resurgence during the course that necessitates the course moving away from in-person delivery, course content may be delivered online either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). There may also be changes to any remaining assessments at the discretion of the course instructor. In the event of a COVID-19 resurgence, detailed information about the impact on this course will be communicated by the Office of the Provost and by the course instructor.

General Information:

Course #: FN 2230A

Section #: 530 and 531

Term: Fall

Year: 2022

Course Day and Time: 530-Thursdays 8:30 am-11:30 am

531-Fridays 8:30 am-11:30 am

Course Location: BR-2001A

Instructor Information

Dr. Brenda Hartman, PhD, RD

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Office hours for students: Contact by email

Course Description

An integrative study of nutrition at the intermediate level. This course explores the roles and functions of the nutrients at the organ and system levels under various physiological conditions.

Prerequisite(s): Foods and Nutrition 1070A/B or 1030E or 1021 or 2021 and Foods and Nutrition 1241 or 2241. Physiology 1021 or 2130.

Prerequisite(s) or Corequisite(s): Biochemistry 2288A or 2280A.

Antirequisite(s): N/A

Extra Information: Equivalent to 3 lecture hours weekly; 0.5 course.

Required Course Materials

Online readings/videos on OWL

Recommended Course Materials

Textbook: Understanding Nutrition 2nd Canadian Ed. Whitney/Rolfes/Hammond/Piche

OBJECTIVES: Upon successful completion of this course, students will be able to demonstrate the Brescia Competencies of Communication, Critical Thinking, Inquiry & Analysis, Problem Solving, Self-Awareness and Development, Valuing, Social Awareness and Engagement.

1. To gain an integrated perspective of nutrient metabolism and apply to human health [Critical Thinking Level 2; Communication Level 2; Inquiry & Analysis Level 2]
2. To use the foundations of chemistry, biochemistry, physiology and microbiology, and link to the biological utilization of food and its nutrient components. [Critical Thinking Level 2; Inquiry & Analysis Level 2]
3. Apply the biological utilization of foods to nutritional status. [Critical Thinking Level 2; Problem Solving Level 1; Inquiry & Analysis Level 2]
4. Explain the factors that can influence health and disease [Critical Thinking Level 2; Inquiry & Analysis Level 2]
5. Gain an integrative perspective on the determination of nutrient requirements. [Critical Thinking Level 3; Social Awareness and Engagement Level 2; Problem-Solving Level 2; Communication Level 2]
6. Develop criteria to evaluate credible sources of nutrition-related Web sites on the internet and be critical about the credibility of their information. [Inquiry and Analysis Level 2 Critical Thinking Level 2]
7. Analyze dietary intake data and compare to current nutrient recommendations. [Critical Thinking Level 2; Inquiry and Analysis Level 2]

Brescia Competencies

Communication

The ability to exchange information and meaning across cultures, space, and time appropriately and correctly. This competency includes oral, written, and interpersonal communication, and the ability to use current or innovative media.

Critical Thinking

The ability to engage in thinking characterized by the rational, informed, independent, and open-minded exploration of issues, ideas, and events before accepting or formulating a conclusion.

Inquiry and Analysis

The ability to ask questions, examine issues, and reach informed conclusions by breaking down complex issues, exploring evidence, and describing relationships among persons, things, or events.

Problem Solving

The ability to create and execute a strategy to answer a question or achieve a goal. Includes being able to anticipate the consequence of a potential solution, select a strategy among several alternatives, and decide when an acceptable outcome has been reached.

Self-Awareness and Development

The ability to draw meaning, knowledge and value from honest and fair reflection and self-evaluation. Students are able to recognize their emotions and patterns of thinking, their impact on others, and make a commitment to personal growth.

Social Awareness and Engagement

The ability to respect and be open to diversity (e.g. cultural, religious, political) and social justice. Students take personal responsibility to actively engage in and contribute to creating positive change in local, regional, national, or global communities and societies.

Valuing

The ability to make decisions or choose actions based on the consistent application of principles expressing fundamental values that are accepted on account of reason or spiritual insight.

ICDEP Competencies

The ICDEP were created by The Partnership for Dietetic Education and Practice (PDEP), a network of professionals from education, regulatory, and professional bodies/associations across Canada. There are 7 inter-related Domains (areas) of Practice Competencies: Food and Nutrition Expertise, Professionalism and Ethics, Communication and Collaboration, Management and Leadership, Nutrition Care, Population Health Promotion, and Food Provision.

For more information on ICDEP competencies please visit the [UWO OWL FN UNDERGRADUATE RESOURCES AND INFORMATION](#) site.

Teaching Methodology and Expectations of Students

Lectures (Up to 3 hours per week) will be accompanied by required online videos and readings. Assignments will provide students with the opportunity to apply learned concepts and to explore new areas of interest.

Copyright and Intellectual Property

PowerPoint lecture slides and notes, lists of readings, online activities, assignment guidelines, and other components of the course materials are typically the intellectual property of the instructor. Unauthorized reproduction through audio-recording, video-recording, photographing, sharing on

social media, or posting on course-sharing websites is an infringement of copyright and is prohibited. Such action may be considered a Code of Conduct violation and lead to sanctions.

Specific Course Policies

Penalty for late assignments: Assignments are due at class time on the date specified. There will be a deduction of 20% of the value of the assignment for late submission. NO assignment will be accepted one (1) week after due date, except in cases with proper documentation to show a confirmed personal illness or a death in the student's immediate family.

Special examination: NO special examination will be given for a student who has missed a scheduled examination except in cases with proper documentation to show a confirmed personal illness or a death in the student's immediate family.

Evaluation

Evaluation Breakdown:

| Component | Weight | Date/ Deadline | Learning Outcome | Brescia Competencies |
|--|---------------|---|------------------------------------|--|
| Midterm (Online MC/FITB/T&F) | 20% | Oct 14 (Friday) Midterm will be open 10:30 am to midnight ONLINE for a maximum time limit of 1.5 hours (once started). | 1,2,3,4,5 | Problem solving Critical Thinking Inquiry & Analysis |
| Library Quiz | 5% | Oct 21 (Friday) | 6 | Inquiry & Analysis |
| Assignments 2 in total, each worth 20% of final grade | 40% | Oct 7 5:00 pm- Dietary Nov 11 5:00 pm- Metabolic | 5,6,7 1,2,3,4,6 | Communication Critical Thinking Inquiry & Analysis |
| Final Exam (In person; Includes lectures after midterm) | 35% | During Exam Period (To be confirmed Dec. 10-Dec. 22, 2022) | Examination of all course material | Problem solving Critical Thinking Inquiry & Analysis |

Academic Accommodation

For course components worth 10% or more of the total course grade, documentation will be required. Medical or other supporting documentation should be submitted to your Academic Advisor. Please see the Academic Policies and Regulations section at the end of this course outline or consult the Academic Calendar. Assignments are due by the time and date specified. There will be a deduction of 20% of the value of the assignment for late submission. NO assignment will be accepted one (1) week after due date, except in cases with proper documentation.

Course Content

Topics will be covered in the order listed and any dates listed are meant as a guideline.

Weekly Organizer:

| Class/Topic | Date | Topic | Assignments and/or Readings Due |
|-------------------|---|---|---|
| | Dates provided are both class days | e.g., topic, content, associated readings, activities | e.g., quiz, paper, group project, exam. |
| Lecture 1 | Sept 8/9 | Introduction/Course Overview Antioxidants/Nutraceuticals& NHP/ Nutrigenomics | |
| Lecture 2 | Sept 15/16 | Body Composition & Physical Activity | |
| Lecture 3 | Sept 22/23 | Fluid & Electrolytes | |
| Lecture 4 | Sept 29/30 | Energy Metabolism Malnutrition: Metabolic Stress, PEM and Starvation | |
| Lecture 5 | Oct 6/7 | Nutrition & Immune Function | Assignment #1 Due Oct 7 |
| Lecture 6 | Oct 13/14 | Library lecture | Midterm online (after FRIDAY class) 1.5 hours Covers lectures 1-5 (MC/ FITB/T&F) |
| Lecture 7 | Oct 20/21 | Digestion & Gut Health GALT and Microbiota | Library quiz due |
| Lecture 8 | Oct 27/28 | Bone Health PTH & Osteoporosis | |
| | Nov 3/4 | Reading Week | |
| Lecture 9 | Nov 10/11 | Blood: Iron, Folate, B₁₂ | Assignment #2 Due Nov 11 |
| Lecture 10 | Nov 17/18 | Mechanisms of Chronic Disease Obesity-Fat & Immunity | |

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|-------------------|------------------------------|--|---------------------|
| Lecture 11 | Nov 24/25 | Mechanisms of Chronic Disease Diabetes-Insulin Resistance | |
| Lecture 12 | Dec 1/2 | Mechanisms of Chronic Disease CVD-atherosclerosis & cholesterol | |
| Final Exam | Date and Time TBD | Final Examination Period Begins (Lectures 7-12) In person | Dec 10-Dec 22, 2022 |

REQUIRED READINGS/WATCHINGS:

See OWL site for readings and videos.

2022-23 BRESCIA UNIVERSITY COLLEGE ACADEMIC POLICIES AND REGULATIONS

1. POLICY REGARDING ACADEMIC ACCOMMODATION

The complete policy regarding Accommodation for Illness - Undergraduate Students can be found at https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_135

Students who have long-term or chronic medical conditions which may impede their ability to complete academic responsibilities should seek Academic Accommodation through Student Accessibility Services (https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_10).

Personal commitments (e.g., vacation flight bookings, work schedule) which conflict with a scheduled test, exam or course requirement are **not** grounds for academic accommodation.

Students who experience an illness or extenuating circumstance sufficiently severe to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

1. For medical absences, submitting a **Student Medical Certificate (SMC)** signed by a licensed medical or mental health practitioner;
2. For non-medical absences, submitting **appropriate documentation** (e.g., obituary, police report, accident report, court order, etc.) to their Academic Advisor. Students are encouraged to contact their Academic Advisor to clarify what documentation is acceptable.

Request for Academic Consideration for a Medical Absence

When a student requests academic accommodation (e.g., extension of a deadline, a makeup exam) for work representing 10% or more of the student's overall grade in the course, it is the responsibility of the student to provide acceptable documentation to support a medical or compassionate claim. All such requests for academic accommodation **must** be made through an Academic Advisor and include supporting documentation.

Academic accommodation for illness will be granted only if the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete their academic responsibilities. Minor ailments typically treated by over-the-counter medications will not normally be accommodated.

The following conditions apply for students seeking academic accommodation on medical grounds:

1. Students must submit their Student Medical Certificate (SMC) along with a request for relief specifying the nature of the accommodation being requested no later than two business days after the date specified for resuming responsibilities. An SMC can be downloaded from https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf;
2. In cases where there might be an extended absence or serious issue, students should submit their documentation promptly and consult their Academic Advisor for advice during their recovery period;
3. Whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, scheduled tests or examinations, and other academic requirements;
4. Students **must** communicate with their instructors **no later than 24 hours** after the end of the period covered by the SMC to clarify how they will fulfil the academic expectations they may have missed during the absence;
5. Appropriate academic accommodation will be determined by the Dean's Office/Academic Advisor in consultation with the course instructor(s). Academic accommodation may include extension of

deadlines, waiver of attendance requirements, arranging Special Exams (make-ups), re-weighting course requirements, or granting late withdrawal without academic penalty.

2. ACADEMIC CONCERNS

If you feel that you have a medical or personal challenge that is interfering with your work, contact your instructor and Academic Advisor as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. Retroactive requests for academic accommodation on medical or compassionate grounds are not normally considered.

If you think that you are too far behind to catch up or that your work load is not manageable, you should consult your Academic Advisor (https://brescia.uwo.ca/enrolment_services/academic_advising/book_an_appointment.php). If you consider reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines; please contact your Academic Advisor or see the list of sessional dates in the Academic Calendar (<https://www.westerncalendar.uwo.ca/SessionalDates.cfm?SelectedCalendar=Live&ArchiveID=>).

You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. *Note that dropping a course may affect OSAP eligibility and/or Entrance Scholarship eligibility.*

3. ABSENCES

Short Absences: If you miss a class due to a minor illness or other problems, check your course outline for information regarding attendance requirements and make sure you are not missing a test or assignment. Cover any readings and arrange to borrow notes from a classmate. Contact the course instructor if you have any questions.

Please note that for asynchronous online courses, attendance or participation requirements may be different than for synchronous or in-person courses.

Extended Absences: If you have an extended absence, you should contact the course instructor and an Academic Advisor. Your course instructor and Academic Advisor can discuss ways for you to catch up on missed work, and arrange academic accommodations if appropriate and warranted.

It is important to note that the Academic Dean may refuse permission to write the final examination in a course if the student has failed to maintain satisfactory academic standing throughout the year or for too frequent absence from the class or laboratory (https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=5&SelectedCalendar=Live&ArchiveID=#Page_64).

4. SCHOLASTIC OFFENCES

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence at: https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_20.

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offences. Note that such offences include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course in the University or elsewhere. Students are advised to consult the section on Scholastic Discipline for Undergraduate Students in the Academic Calendar.

If you are in doubt about whether what you are doing is inappropriate or not, consult your instructor, the Academic Dean's Office, or the Registrar. A claim that "you didn't know it was wrong" is not accepted as an excuse.

The penalties for a student guilty of a scholastic offence (including plagiarism) include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

Plagiarism:

Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com.

Computer-marked Tests/exams:

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating. Software currently in use to score computer-marked multiple-choice tests and exams performs a similarity review as part of standard exam analysis.

5. PROCEDURES FOR APPEALING ACADEMIC EVALUATIONS

All appeals of a grade must be directed first to the course instructor. If the student is not satisfied with the decision of the course instructor, a written appeal is to be sent to the School Chair. If the response of the Chair is considered unsatisfactory to the student, they may then submit a written appeal to the Office of the Dean. If the student is not satisfied with the decision of the Dean, they may appeal to the Senate Review Board Academic (SRBA), if there are sufficient grounds for the appeal and if the matter falls within the jurisdiction of the SRBA. For information on academic appeals consult your Academic Advisor or see the Student Academic Appeals – Undergraduate in the Academic Calendar

https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_14.

Note that final course marks are not official until the Academic Dean has reviewed and signed the final grade report for the course. If course marks deviate from acceptable and appropriate standards, the Academic Dean may require grades to be adjusted to align them with accepted grading practices.

6. PREREQUISITES

Unless you have either the prerequisites for a course or written Special Permission from the Dean to enroll in it, you will be removed from the course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisite(s).

7. SUPPORT

Support Services

The Brescia University College Registrar's website, with a link to Academic Advisors, is at <http://brescia.uwo.ca/academics/registrar-services/>. Students can access supports through Brescia's

Student Life Centre (<http://brescia.uwo.ca/life/student-life/>) and Learning Development & Success at Western (<https://www.uwo.ca/sdc/learning/>).

Mental Health and Wellness

Students may experience a range of issues that can cause barriers to your learning, such as increased anxiety, feeling overwhelmed, feeling down or lost, difficulty concentrating and/or lack of motivation. Services are available to assist you with addressing these and other concerns you may be experiencing. You can obtain information about how to obtain help for yourself or others through **Health & Wellness at Brescia**, https://brescia.uwo.ca/student_life/health_and_wellness/index.php and **Health and Wellness at Western**, http://uwo.ca/health/mental_wellbeing/index.html.

Sexual Violence

All members of the Brescia University College community have a right to work and study in an environment that is free from any form of sexual violence. Brescia University College recognizes that the prevention of, and response to, Sexual Violence is of particular importance in the university environment. Sexual Violence is strictly prohibited and unacceptable and will not be tolerated. Brescia is committed to preventing Sexual Violence and creating a safe space for anyone in the Brescia community who has experienced Sexual Violence.

If you or someone you know has experienced any form of Sexual Violence, you may access resources at https://brescia.uwo.ca/safe_campus/sexual_violence/index.php.

Portions of this document were taken from the Academic Calendar, the Handbook of Academic and Scholarship Policy, and the Academic Handbook of Senate Regulations. This document is a summary of relevant regulations and does not supersede the academic policies and regulations of the Senate of the University of Western Ontario.
