



Course Outline – FN 4471 Nutrition and Metabolic Processes

General Information

Course #: 4471B

Section #: 001

Term: Winter

Year: 2025

Course Day and Time: Monday, Wednesday, Friday 12:30pm-1:20pm

Course Location:

Instructor Information

Name: Dr's Twynstra / Battram

E-mail: jasna.twynstra@uwo.ca / dbattra@uwo.ca

Office hours for students:

Office location:

Instructor Information

Name:

E-mail:

Office hours for students:

Office location:

Course Description

An integrative study of nutrient metabolism at the advanced level. This course provides an in-depth understanding of the regulation of nutrients at organ and cellular levels under various physiological conditions.

Prerequisites: Biochemistry 2288A or Biochemistry 2280A, Foods and Nutrition 2230A/B.

Required Course Materials

Advanced Nutrition and Human Metabolism (7th ed). SS Gropper, JL Smith & JL Groff. Wadsworth Cengage Learning. USA. 2018.

Additional assigned readings – posted in BrightSpace.

Learning Outcomes

Upon successful completion of this course, students will be able to demonstrate:

- a. gaining a clearer understanding of the role / function and metabolism of the macro-nutrients and select micro-nutrients under normal physiological conditions.
- b. then integrating this knowledge to analyse the biochemical nature of normal and abnormal (disease) metabolic processes.
- c. demonstrating a better appreciation for the development of disease states and why treatment targets may vary on an individual basis.
- d. gaining stronger critical thinking skills through seminar discussions on current scientific literature.
- e. developing stronger leadership skills by facilitating seminar discussions and conducting a class lecture.

Integrated Competencies for Dietetic Education and Practice (ICDEP)

(Specific to the Brescia School of Food and Nutritional Sciences, Honors Specialization in Nutrition and Dietetics)

As an accredited dietetic program in Canada, we are required to meet the ICDEP Competencies. These competencies consist of 7 interrelated 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. This course is designed to ensure that students who complete the course as outlined obtain certain competencies in the above domains. This is required to meet entry level dietetic practice.

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

Teaching Methodology and Expectations of Students

Three 1-hr lectures per week will cover materials based on the above textbook, assigned readings, and seminar discussions.

Copyright and Intellectual Property

PowerPoint lecture slides and notes, lists of readings, in-class 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.

Use of Generative AI

The use of generative Artificial Intelligence (AI) tools, including but not limited to writing assistants (e.g., ChatGPT, QuillBot) and translation services (e.g., Google translate) is prohibited. Use of generative AI tools when prohibited or in a way not specifically allowed is a scholastic offence and subject to the penalties for a scholastic offence outlined in the Academic Calendar.

Evaluation Breakdown:

Component	Weight	Date/ Deadline
Midterm Exam #1 (Weeks 1-3)	20%	Jan 31, 2024
Midterm Exam #2 (Weeks 4-6)	20%	Feb 26, 2024
Team Project	30%	Mar 31, 2024
Final Exam (Weeks 7-12)	30%	TBA

Course Content

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

Weekly Organizer:

LECTURES			
Week	Date	Description	Instructor
1	Jan 6	Review of Course Outline	JT
	Jan 8, 10	Review of Key Biochemical Concepts	JT
2	Jan 13, 15, 17	Carbohydrate Metabolism – Part 1	DB
3	Jan 20, 22, 24	Carbohydrate Metabolism – Part 2	DB
4	Jan 27, 29	Fat Metabolism – Part 1	JT
	Jan 31	Midterm Exam 1 (20%) – Weeks 1-3	JT/DB
5	Feb 3, 5	Fat Metabolism – Part 2	JT
	Feb 7	Independent Study Work	

6	Feb 10	Fat Metabolism	JT
	Feb 12, 14	Protein Metabolism	JT
	Feb 17-21	Reading Week – No class	
7	Feb 24	Protein Metabolism	JT
	Feb 26	Midterm Exam 2 (20%) – Weeks 4 - 6	JT/DB
	Feb 28	Seminar Prep #1 – Read Articles and Answer Questions	
8	Mar 3, 5	Seminar #1: Obesity’s Contribution to Chronic Disease	DB
	Mar 7	Seminar Prep #2 - Read Articles and Answer Questions	
9	Mar 10, 12	Seminar #2: Exercise’s Effects on Metabolism	DB
	Mar 14	Seminar Prep #3 – Read Articles and Answer Questions	
10	Mar 17, 19	Seminar #3: Influence of Diet on Cardiovascular Health	JT
	Mar 21	Seminar Prep #4: Weight Loss and It’s Impact on Metabolism	
11	Mar 24, 26	Seminar #4: Weight Loss and It’s Impact on Metabolism	DB
	Mar 28	Independent Study Work	
12	Mar 31, Apr 2, 4	Project Due (Mar 31) – written and summary components (20%) AND Student Presentations (10%)	DB/JT
	TBD	<i>FINAL EXAM (30%) – Weeks 7 – 12</i>	

FHS Common Course Outline Attachment

Statement on Prerequisite Checking

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this 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 prerequisites

Statement on Gender-Based and Sexual Violence

Western [is committed to reducing incidents of gender-based and sexual violence](#) (GBSV) and providing compassionate support to anyone who is going through or has gone through these traumatic events. If you are experiencing or have experienced GBSV (either recently or in the past), you will find information about support services for survivors, including emergency contacts, [here](#). To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Support Services

There are various support services around campus and these include, but are not limited to:

1. Academic Support and Engagement - <http://academicsupport.uwo.ca>
2. Wellness and Well-being - <https://www.uwo.ca/health/>
3. Registrar's Office -- <http://www.registrar.uwo.ca/>
4. Ombuds Office -- <http://www.uwo.ca/ombuds/>

In accordance with [policy](#), the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

Health and Wellness

As part of a successful undergraduate experience at Western, we encourage you to make your health and wellness a priority. Western provides several on-campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your degree. For example, to support physical activity, all students receive membership in Western's Campus Recreation Centre as part of their registration fees. Numerous cultural events are offered throughout the year. Please check out the Faculty of Music web page (<http://www.music.uwo.ca/>), or the McIntosh Gallery (<http://mcintoshgallery.ca/>). Further information

regarding health and wellness-related services available to students may be found at <https://www.uwo.ca/health/>.

If you are in emotional or mental distress, please visit Western Psychological Services (<https://www.uwo.ca/health/psych>) for a list of options for obtaining help.

Use of Electronic Devices

During Exams: Unless you have medical accommodations that require you to do so, or explicit permission from the instructor of the course, you may not use any electronic devices during ANY tests, quizzes, midterms, examinations, or other in-class evaluations.

During Lectures and Tutorials: Although you are welcome to use a computer during lecture and tutorial periods, you are expected to use the computer for scholastic purposes only, and refrain from engaging in any activities that may distract other students from learning. From time to time, your professor may ask the class to turn off all computers, to facilitate learning or discussion of the material presented in a particular class.

Unless explicitly noted otherwise, you may not make audio or video recordings of lectures – nor may you edit, re-use, distribute, or re-broadcast any of the material posted to the course website.

Personal Response Systems (“clickers”) may be used in some classes. For those classes in which we use this technology, it is your responsibility to ensure that the device is activated and functional. You must speak with the course instructor immediately, if you have any concerns about whether or not your clicker is malfunctioning.

You must use only your own clicker. For all components of this course in which clicker records are used to compute a portion of the grade:

- The use of somebody else’s clicker in class constitutes a scholastic offence;
- The possession of a clicker belonging to another student will be interpreted as an attempt to commit a scholastic offense

Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, in the [Academic Calendar \(westerncalendar.uwo.ca\)](http://westerncalendar.uwo.ca).

Plagiarism

Student work is expected to be original. Plagiarism is a serious academic offence and could lead to a zero on the assignment in question, a zero in this course, or your expulsion from the university. You are plagiarizing if you insert a phrase, sentence or paragraph taken directly from another author without acknowledging that the work belongs to him/her. Similarly, you are plagiarizing if you paraphrase or summarize another author's ideas without acknowledging that the ideas belong to someone else. All 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 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 Western University and Turnitin.com (www.turnitin.com).

Re-submission of Previously Graded Material

Without the explicit written permission of the instructor, you may not submit any academic work for which credit has been obtained previously, or for which credit is being sought, in another course or program of study in the University or elsewhere.

Use of Statistical Pattern Recognition on Multiple Choice 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.

Academic Considerations and Absences from Lectures and Assessments

Religious Accommodation

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request (in writing) any necessary academic considerations at least two weeks prior to the holiday to the academic advisors in their Home Department. Additional information is provided in the [Western Multicultural Calendar](#).

Academic Accommodation

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. Students with ongoing accommodation needs within this course are also encouraged to contact [Accessible Education](#), which provides recommendations for accommodation based on medical documentation or psychological

and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found [here](#).

Academic Consideration

The University recognizes that a student's ability to meet their academic responsibilities may, on occasion, be impaired by extenuating circumstances that are medical or compassionate in nature. These extenuating circumstances may be acute (short term), or it may be chronic (long term), or chronic with acute episodes. In all cases, students are advised to consult with the academic advisors in their home units, at their earliest opportunity. Academic advisors may refer students to [Accessible Education](#) for ongoing academic accommodations.

Most forms of academic consideration require documentation, and this documentation is to be submitted to academic advisors within five (5) business days of their return to academic responsibilities. Any such documents will be retained in the student's file, and will be held in confidence in accordance with the University's [Official Student Record Information Privacy Policy](#). Once the petition and supporting documents have been received and assessed, appropriate academic considerations shall be determined by academic advising, in consultation with the student's instructor(s). Academic considerations may include extension of deadlines, waiver of attendance requirements for classes/labs/tutorials, arranging Special Exams or Incompletes, re-weighting course requirements, or granting late withdrawals without academic penalty. Academic considerations shall be granted only where 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. (Note – it will not be sufficient to provide documentation indicating simply that the student “was seen for a medical reason” or “was ill.”).

Whenever possible, students who require academic considerations should provide notification and documentation in advance of due dates, examinations, etc. Under no circumstances are students expected to submit rationales for (or documentation of) any absences, to course instructors. Students are, however, required to follow-up with course instructors, in a timely fashion, to identify the ways in which the academic consideration will be implemented.

Examination Conflicts

A student completing tests or examinations with flexible submission times (e.g., where one or more evaluation is a take-home assessment) cannot request alternative arrangements unless a conflict cannot be avoided by rescheduling writing the exam to a different time within the window specified by the instructor. This applies to direct conflicts as well as “heavy load” conflicts (e.g., three exams within

a 23-hour period). The student should discuss any concerns about a potential conflict and/or request academic considerations with their academic advising unit prior to the deadline to drop a course without academic penalty

In the case of online tests and examinations, use of a “Conflict Room,” wherein student can write two proctored exams concurrently, will be interpreted as arrangements for continuous proctoring.

Contingency Plan for an In-Person Class Pivoting to 100% Online Learning

In the event of an event that requires this course to pivot to online content delivery, all remaining course content will be delivered entirely 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). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor.

Online Proctoring

Tests and examinations in this course may be conducted using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide **personal information** (including some biometric data) and the session will be **recorded**. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western’s Remote Proctoring website at: <https://remoteproctoring.uwo.ca>.

Appealing a Grade Within this Course

You have the right to appeal any grade within this course. The grounds for a grade appeal may be one or more of: medical or compassionate circumstances, extenuating circumstances beyond the student’s control, bias, inaccuracy, or unfairness.

A request for relief against a mark or grade must be initiated with the instructor as soon as possible after the mark is issued. This appeal need not be in writing. If the matter is not resolved satisfactorily with the instructor, a written request for relief must be submitted to the Chair of the Department within three weeks of the date that the mark was issued. In the case of a final grade in a course, the written request for relief must be submitted to the Chair of the department by January 31st (for first-term half courses) or June 30th (for second-term half courses or full-year courses).

Your appeal letter does not need to be lengthy, but it should clearly indicate the detailed reason(s) for your request, any circumstances that impacted your ability to perform successfully, and the relief you are requesting. You are encouraged to provide supporting documentation if you identify extenuating circumstances that contributed to your situation. The Office of the Ombudsperson has extensive information available on their website (<https://uwo.ca/ombuds/get-help.html>) related to academic appeals.