

Syllabus

HNSC 2140: Basic Principles of Nutrition

Winter 2026 (A01)

Department of Human Nutritional Sciences



University
of Manitoba

COURSE DETAILS

Course Title & Number:	HNSC 2140 Basic Principles of Human Nutrition
Number of Credit Hours:	3.0
Class Times & Days of Week:	1:00 – 2:15 pm, Tuesdays & Thursdays
Location for classes/labs/tutorials:	Room 318 St. Paul's College [Lectures are in-person. However, if required, lectures may be online (Zoom or UM Learn). Instructor will provide notice to the class within 48 hours. Students are to stay up to date on UM Learn announcements.]
Pre-Requisites:	Prerequisites: (CHEM/MBIO 2700 (CHEM/MBIO 2701) or CHEM/MBIO 2730, or the former CHEM/MBIO 2770 or the former CHEM/MBIO 2360 the former CHEM/MBIO 2361)) and [(HNSC 1200 and HNSC 1210) or FOOD 2500]. Pre- or corequisites: CHEM 2720 (CHEM 2721) or CHEM 2740 or the former CHEM/MBIO 2770 or the former CHEM/MBIO 2360 (the former CHEM/MBIO 2361).

Instructor Contact Information

Instructor(s) Name & Preferred Form of Address:	Jaspreet Kaur (she/her) Jaspreet, or Ms. Kaur
Office Location:	268 Ellis Building
Office Hours or Availability:	No set office hours. Meet the instructor after class (if brief) or make an appointment by UM email
Preferred Method of Communication - Email:	I will respond to your emails within 48 h, excluding holidays and weekends, JaspreetKaur@umanitoba.ca
Contact:	If you have questions or need to contact me about the course materials, attendance, or personal issue. <ul style="list-style-type: none">• Use my UM email• UM policy states that all students must use their University of Manitoba email address for all correspondence• Include 'HNSC 2140' in the subject line• Use professional language, and proper grammar and spelling

COURSE DESCRIPTION

This course will examine the scientific principles underlying nutrient function and dietary requirements.

COURSE LEARNING OBJECTIVES

Detailed learning objectives for each section will be provided at the beginning of each topic in the PowerPoint slides for that topic.

FOUNDATIONAL KNOWLEDGE CONTENT AREAS FOR DIETETICS EDUCATION

This dietetic education program is an accredited program recognized by the Partnership for Dietetic Education and Practice (PDEP) and prepares students for eligibility for registration with a provincial dietetics regulatory body.

Highest level achieved: 1= demonstrate broad knowledge; 2= demonstrate comprehension; 3 = analyze, interpret and apply knowledge

Content Area	Foundational Knowledge	Cognitive Complexity Level
Anatomy and Physiology	Role, function and regulation of the integumentary, musculo-skeletal, nervous, endocrine, cardio-respiratory, urinary, lymphatic and digestive systems in health and disease	2
Biochemistry	Foundations of chemistry and biochemistry	2
	Major metabolic pathways	2
	Foundations of cellular and molecular biology	2
	Mechanisms of metabolic regulation	2
Human Nutrition across the Lifespan	Ingestion, digestion, absorption, metabolism and excretion of nutrients	3
	Biochemical utilization of nutrients and energy	3
	Nutrient and energy requirements	3
	Physical activity and energy balance	2
	Nutrition recommendations and guidelines	3

Textbook: **Advanced Nutrition and Human Metabolism**, 8th Edition. S.S. Gropper, J.L. Smith, T.P. Carr. Wadsworth/Cengage Learning, 2022. ISBN: 9780357449813. Available at U of M Bookstore.

Reference: Your Biochemistry Textbook

Note: Other selected readings may be assigned in class.

Class Format: Class notes will be available on UM Learn on the HNSC 2140 class site. Students will need to review the notes for each class before coming to class. Some of the notes will be self-explanatory – these slides will be identified and there will be no formal lectures on these slides. However, there will be opportunity for discussion and questions pertaining to these slides in class. Reviewing previous coursework in biochemistry and foods and nutrition is also recommended. Students also are encouraged to go over the lecture and class notes following each class. Each class will start with the opportunity to ask questions relating to the previous class material. Students also are encouraged to ask questions and seek clarification of material during class. Classes will be a combination of traditional lecture format, directed learning and inquiry-based education. Students are expected to attend lectures. Lectures provide elaboration and explanation of the notes provided on UM Learn. The textbook should be used to help clarify the notes and the lectures.

COURSE TECHNOLOGY

Recording Class Lectures & Discussions: The course instructor and the University of Manitoba hold copyright over the course materials, presentations and lectures which form part of this course. No audio or photo/video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission of the course instructor, Ms. Jaspreet Kaur. Course materials (paper and digital) are for the participant's private study and research only.

UM Learn: UM Learn will be used for posting lecture slides, and other relevant course information.

CHECK THE COURSE ANNOUNCEMENT AREA ON UM Learn REGULARLY and TURN ON NOTIFICATIONS.

For assistance with UM Learn, contact: IST Help and Solutions Centre | Email: support@umanitoba.ca | Phone: (204) 474-8600

Online Platforms: WebEx or another online platform may be used for this course. You will be notified of this before the applicable date.

EXPECTATIONS

I expect you to follow these policies around Class Communication, Attendance, Academic Integrity, etc. outlined below (can also refer to [Section 2.5 ROASS](#)).

Class Communication:

I will be occasionally posting messages and additional information/materials on UM LEARN. Please check the site regularly. **Submit all assignments on UM LEARN** unless otherwise instructed.

Use your UM email address and my UM email address JaspreetKaur@umanitoba.ca (NOT UM Learn) for class communication: [University of Manitoba policy](#) states that all students must use their University of Manitoba email address for all correspondence.

Attend class regularly:

The class starts at 1:00 pm sharp. Although 5-min late is tolerated, please do not be late for in-person classes since you will disturb the class and colleagues. Plan your transportation accordingly. Regular attendance is expected of all students during in-person classes. If you must miss a class, please notify the instructor as soon as possible by email. An instructor may initiate procedures to debar a student from attending classes and from final examinations and/or from receiving credit where unexcused absences exceed those permitted by the faculty or school regulations. A student may be debarred from class, laboratories, and examinations by action of the dean/director for persistent non-attendance, failure to produce assignments to the satisfaction of the instructor, and/or unsafe clinical practice or practicum. Students so debarred will have failed that course.

NOTE: It is your responsibility to communicate with your instructor well in advance of tests/exams/assignment due dates, of any ongoing issues, OR immediately once an issue arises that *may* impact your ability to complete course work including tests.

Academic Integrity:

Each student in this course is expected to abide by the University of Manitoba [Academic Integrity principles](#). Always remember to reference the work of others that you have used. Also be advised that you are required to complete your assignments independently unless otherwise specified. If you are encouraged to work in a team, ensure that your project complies with the academic integrity regulations. You must do your own work during exams. Inappropriate collaborative behavior and violation of other Academic Integrity principles, will lead to the serious [disciplinary action](#). Visit the [Academic Calendar](#), [Student Advocacy](#), and [Academic Integrity](#) web pages for more information and support.

Plagiarism and Cheating:

Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious academic penalty (e.g. suspension or expulsion from the faculty or university). Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials into the exam room (e.g., crib notes, pagers or cell phones). Exam cheating can also include exam personation. (Please see Exam Personation, found in the Examination Regulations section of the General Academic Regulations). A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty.

To plagiarize is to take ideas or words of another person and pass them off as one's own. In short, it is stealing something intangible rather than an object. Plagiarism applies to any written work, in traditional or electronic format, as well as orally or verbally presented work.

Obviously, it is not necessary to state the source of well-known or easily verifiable facts, but students are expected to appropriately acknowledge the sources of ideas and expressions they use in their written work, whether quoted directly or paraphrased. This applies to diagrams, statistical tables and the like, as well as to written material, and materials or information from Internet sources. To provide adequate and correct documentation is not only an indication of academic honesty but is also a courtesy which enables the reader to consult these sources with ease. Failure to provide appropriate citations constitutes plagiarism. It will also be considered plagiarism and/or cheating if a student submits a term paper written in whole or in part by someone other than him/herself or copies the answer or answers of another student in any test, examination, or take-home assignment.

Working with other students on assignments, laboratory work, take-home tests, or on-line tests, when this is not permitted by the instructor, can constitute Inappropriate Collaboration and may be subject to penalty under the Student Discipline By-Law.

An assignment which is prepared and submitted for one course should not be used for a different course. This is called “duplicate submission” and represents a form of cheating because course requirements are expected to be fulfilled through original work for each course.

When in doubt about any practice, ask your professor or instructor.

The Student Advocacy Office, 519 University Centre, 474-7423, is a resource available to students dealing with Academic Integrity matters.

Examinations: Personations

A student who arranges for another individual to undertake or write any nature of examination for and on his/her behalf, as well as the individual who undertakes or writes the examination, will be subject to discipline under the university’s Student Discipline Bylaw, which could lead to suspension or expulsion from the university. In addition, the Canadian Criminal Code treats the personation of a candidate at a competitive or qualifying examination held at a university as an offence punishable by summary conviction. Section 362 of the code provides:

Everyone who falsely, with intent to gain advantage for him/herself or some other person, personates a candidate at a competitive or qualifying examination held under the authority of law or in connection with a university, college, or school or who knowingly avails him/herself of the results of such personation is guilty of an offence punishable on summary conviction. 1953-54, c.51, s.347.

Both the personator and the individual who avails him/herself of the personation could be found guilty. Summary conviction could result in a fine being levied or up to two years of imprisonment.

[1] University of Western Ontario, Academic Handbook, Issued 2009 03

Student Accessibility Services:

The University of Manitoba is committed to providing an accessible academic community. [Students Accessibility Services \(SAS\)](#) offers academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

Student Accessibility Services

520 University Centre

Phone: (204) 474-7423

Email: Student_accessibility@umanitoba.ca

Maintaining a Respectful Classroom Environment: The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected to conduct yourself in an appropriate respectful manner. The University has a zero-tolerance policy on harassment, racism, bullying or any disruptive behaviour. This class will not tolerate any disruptive behaviors from the students or staff, "...behavior which persistently interferes with the academic or administrative activities of the university (and/or) which inhibits the ability of other students to learn and of the instructors to teach". (Inappropriate Disruptive Student Behavior, Section 2.1.2). Should you encounter such behaviour in your classes, you are within your rights to ask a student to leave the class, call Campus Security @ 204-474-9312.

You Can Expect Me To

I will treat you with respect and would appreciate the same courtesy in return. See [Respectful Work and Learning Environment Policy](#). I will also:

- Respond in a timely manner to queries or requests to meet (within 48 hours).
- Return graded assignments within two weeks of submission.
- Use a variety of teaching methods and relevant course materials to facilitate a stimulating learning environment.
- Be available for 10 minutes after the class time to discuss any brief questions or comments you may have, or by appointment.

CLASS SCHEDULE AND COURSE EVALUATION

This schedule is subject to change at the discretion of the instructor and/or based on the learning needs of the students but such changes are subject to [Section 2.8 of ROASS](#).

Date	Class Content	Required Readings	Assignment Due / Mid Term Tests
Jan 6 (Tuesday)	Introduction, Review of Syllabus and Course Outline Topic 1: Dietary Reference Intakes -Nutrition Research -Dietary requirements and recommendations -Concepts of nutrient classes -dietary Requirements and rationale	Dietary Reference Intakes	
Jan 8 (Thursday)	Topic 1 Continued (if needed) Topic 2: Cell Physiology -Cell components and structure -Gene expression and protein synthesis -Nutrient effects on transcription, translation, epigenetic regulation -Enzymes in metabolism	Textbook Chapter 1	
Jan 13 (Tuesday)	Topic 2		
Jan 15 (Thursday)	Topic 3: Digestion and Absorption - Structure of the digestive tract - Physical mechanisms of digestion - Enzymes, secretions, regulation of digestion - Regulation of food intake - Absorption of nutrients - Regulation of water balance	Textbook Chapter3	

Jan 20 (Tuesday)	Topic 3		
Jan 22 (Thursday)	Topic 3		DRI ASSIGNMENT DUE (UM LEARN)
Jan 27 (Tuesday)	Topic 4: Energy transformations - Energy change in chemical reactions - ATP/ADP - Electron transport chain - Role of micronutrients - Food as sources of energy - Energy expenditure and measurement	Textbook Chapters 1 & 8	
Jan 29 (Thursday)	Topic 4		
Feb 3 (Tuesday)	Topic 4		
Feb 5 (Thursday)	Topic 5: Carbohydrates - Nomenclature - Digestion and absorption of carbohydrates - Regulation of carbohydrate metabolism - Role of micronutrients in carbohydrate metabolism	Textbook Chapter 3	
Feb 10 (Tuesday)	No Class (Self-study time for the preparation of mid-term test #1)		
Feb 12 (Thursday)	MID TERM TEST #1		MID TERM TEST #1 (In Class)
February 16 – 20	No Class Winter Break		
Feb 24 (Tuesday)	Topic 5		
Feb 26 (Thursday)	Topic 5		
Mar 3 (Tuesday)	Topic 6: Fibre - Nomenclature - Fibre in the gastrointestinal tract - Fibre and disease - Fibre recommendations	Textbook Chapter 4	

Mar 5 (Thursday)	Topic 6		
Mar 10 (Tuesday)	Topic 7: Lipids, Alcohol - Nomenclature and structure - Digestion and absorption of lipids - Lipid transport, storage, and metabolism - Micronutrients in lipid metabolism - Health effects of lipids and recommendations - Antioxidant nutrients - Alcohol metabolism	Textbook Chapter 5	
Mar 12 (Thursday)	No Class (Self-study time for the preparation of mid-term test #2)		
Mar 17 (Tuesday)	MID TERM TEST #2		MID TERM TEST #2
Mar 19 (Thursday)	Topic 7		
Mar 24 (Tuesday)	Topic 7		
Mar 26 (Thursday)	Topic 8: Protein - Nomenclature - Digestion and absorption of proteins - Protein metabolism and the role of micronutrients - Protein quality - Nutrient effects on protein synthesis	Textbook Chapter 6	
Mar 31 (Tuesday)	Topic 8		
Apr 2 (Thursday)	Topic 9: Metabolic Integration - Metabolic pathways involving nutrients - Feeding and fasting - Exercise and energy expenditure	Textbook Chapter 7	
Apr 7 (Tuesday)	Topic 9		
Apr 9 (Thursday)	Last Class (Discuss any doubts)		

COURSE EVALUATION METHODS

Term tests and the final exam will consist of Multiple Choice, True/False, Fill in the Blanks, and Short Answers/case studies. The term tests and final exam are closed book.

The DRI assignment is a take home assignment that is submitted on UM Learn.

The DRI chapter on vitamin B₁₂ is needed for the DRI test. The chapter (vitamin B₁₂) is available online for free as a PDF. It can be found at: http://www.nap.edu/catalog.php?record_id=6015.

The final exam will be cumulative. Students must remain available during the exam period set by the university.

Date	Assessment Tool	Value of Final Grade
January 22	DRI Assignment	10%
February 12	Term test 1 (Topics 1-4) (60 min)	25%
March 17	Term test 2 (Topics 5-6) (60 min)	25%
Set by RO (in April)	Final exam (Cumulative; focus on Topics 7-9) (2 hours)	40%

GRADING

Letter Grade	Percentage out of 100	Grade Point Range	Final Grade Point
A+	90-100	4.25-4.5	4.5
A	80-89	3.75-4.24	4.0
B+	75-79	3.25-3.74	3.5
B	70-74	2.75-3.24	3.0
C+	65-69	2.25-2.74	2.5
C	60-64	2.0-2.24	2.0
D	50-59	Less than 2.0	1.0
F	Less than 50		0

MISSED TESTS, EXAMS AND ASSIGNMENTS

Any student that misses a test must notify the instructor before or within 24 hours of the test to avoid getting a grade of 0.

If one of the Term tests is missed and the appropriate notification is given, the test will not be written, and the weighting of the other term test and final exam will be increased proportionately.

If a student is unable to write the final exam, the student must make arrangements with the faculty to write the final exam at an alternate date.

ASSIGNMENT EXTENSION AND LATE SUBMISSION POLICY

Extensions will not be granted for reasons other than medical or compassionate **and proof such as a doctor's certificate will be required. *No personable excuses will be accepted.**

Late assignments will be accepted however, **10% per day late** will be deducted from the total marks of each assignment. Assignments submitted more than 10 days after the due date will automatically receive a mark of zero.

VOLUNTARY WITHDRAWAL

The voluntary withdrawal deadline is **March 19, 2026**. Students who do not drop the course by the deadline will be assigned a final grade. Withdrawal courses will be recorded on official transcripts. Refer to the [Registrar's Office](#) web page for more information. Note that I am willing to discuss your progress and strategies for improvement at any time.

UNIVERSITY SUPPORT OFFICES & POLICIES

Writing and Learning Support

The Academic Learning Centre (ALC) offers services that may be helpful to you throughout your academic program. Through the ALC, you can meet with a learning specialist to discuss concerns such as time management, learning strategies, and test-taking strategies. The ALC also offers peer supported study groups called Supplemental Instruction (SI) for certain courses that students have typically found difficult. In these study groups, students have opportunities to ask questions, compare notes, discuss content, solve practice problems, and develop new study strategies in a group-learning format.

You can also meet one-to-one with a writing tutor who can give you feedback at any stage of the writing process, whether you are just beginning to work on a written assignment or already have a draft. If you are interested in meeting with a writing tutor, reserve your appointment two to three days in advance of the time you would like to meet. Also, plan to meet with a writing tutor a few days before your paper is due so that you have time to work with the tutor's feedback.

These Academic Learning Centre services are free for U of M students. For more information, please visit the Academic Learning Centre website at: <http://umanitoba.ca/student/academiclearning/>

You can also contact the Academic Learning Centre by calling 204-480-1481 or by visiting 205 Tier Building.

University of Manitoba Libraries (UML)

As the primary contact for all research needs, your liaison librarian can play a vital role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you may have, regarding the research process. Liaisons can be contacted by email or phone and are also available to meet with you in-person. A complete list of liaison librarians can be found by subject: <http://bit.ly/WcEbA1> or name: <http://bit.ly/1tJ0bB4>. In addition, general library assistance is provided in person at 19 University Libraries, located on both the Fort Garry and Bannatyne campuses, as well as in many Winnipeg hospitals.

For a listing of all libraries, please consult the following: <http://bit.ly/1sXe6RA>. When working remotely, students can also receive help online, via the Ask-a-Librarian chat found on the Libraries' homepage: www.umanitoba.ca/libraries.

Student Counselling Centre

Contact SCC if you are concerned about any aspect of your mental health, including anxiety, stress, or depression, or for help with relationships or other life concerns. SCC offers crisis services as well as individual, couple, and group counselling. *Student Counselling Centre:* <http://umanitoba.ca/student/counselling/index.html>

474 University Centre or S207 Medical Services
(204) 474-8592

For 24/7 mental health support, contact the Mobile Crisis Service at 204-940-1781.

Student Support Case Management

Contact the Student Support Case Management team if you are concerned about yourself or another student and don't know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team.

Student Support Intake Assistant

<http://umanitoba.ca/student/case-manager/index.html>

520 University Centre, (204) 474-7423

University Health Service

Contact UHS for any medical concerns, including mental health problems. UHS offers a full range of medical services to students, including psychiatric consultation.

University Health Service <http://umanitoba.ca/student/health/>

104 University Centre, Fort Garry Campus
(204) 474-8411 (Business hours or after hours/urgent calls)

Health and Wellness

Contact our Health and Wellness Educator if you are interested in information on a broad range of health topics, including physical and mental health concerns, alcohol and substance use harms, and sexual assault.

Health and Wellness Educator <http://umanitoba.ca/student/health-wellness/welcome.html>

Katie.Kutryk@umanitoba.ca

469 University Centre
(204) 295-9032

Live Well @ UofM

For comprehensive information about the full range of health and wellness resources available on campus, visit the Live Well @ UofM site: <http://umanitoba.ca/student/livewell/index.html>

Your rights and responsibilities

As a student at the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.

The [Academic Calendar](http://umanitoba.ca/student/records/academiccalendar.html) <http://umanitoba.ca/student/records/academiccalendar.html> is one important source of information. View the sections *University Policies and Procedures* and *General Academic Regulations*.

While all of the information contained in these two sections is important, the following information is highlighted.

- If you have questions about your grades, talk to your instructor. There is a process for term work and final **grade appeals**. Note that you have the right to access your final examination scripts. See the Registrar's Office website for more information including appeal deadline dates and the appeal form <http://umanitoba.ca/registrar/>
- You are expected to view the General Academic Regulation section within the Academic Calendar and specifically read the **Academic Integrity** regulation. Consult the course syllabus or ask your instructor for additional information about demonstrating academic integrity in your academic work. Visit the Academic Integrity Site for tools and support <http://umanitoba.ca/academicintegrity/>
- The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected conduct yourself in an appropriate respectful manner. Policies governing behavior include the:

Respectful Work and Learning Environment

http://umanitoba.ca/admin/governance/governing_documents/community/230.html

Student Discipline

http://umanitoba.ca/admin/governance/governing_documents/students/student_discipline.html and,

Violent or Threatening Behaviour

http://umanitoba.ca/admin/governance/governing_documents/community/669.html

- If you experience **Sexual Assault** or know a member of the University community who has, it is important to know there is a policy that provides information about the supports available to those who disclose and outlines a process for reporting. The **Sexual Assault** policy may be found at: http://umanitoba.ca/admin/governance/governing_documents/community/230.html
More information and resources can be found by reviewing the Sexual Assault site <http://umanitoba.ca/student/sexual-assault/>
- For information about rights and responsibilities regarding **Intellectual Property** view the [http://umanitoba.ca/admin/governance/media/Intellectual_Property_Policy - 2013 10 01.pdf](http://umanitoba.ca/admin/governance/media/Intellectual_Property_Policy_-_2013_10_01.pdf)
 - For information on regulations that are specific to your academic program, read the section in the Academic Calendar and on the respective faculty/college/school web site <http://umanitoba.ca/faculties/>
 - Contact an **Academic Advisor** within our faculty/college or school for questions about your academic program and regulations <http://umanitoba.ca/academic-advisors/>

Student Advocacy

Contact Student Advocacy if you want to know more about your rights and responsibilities as a student, have questions about policies and procedures, and/or want support in dealing with academic or discipline concerns.

<http://umanitoba.ca/student/advocacy/>

University Centre

204 474 7423

student_advocacy@umanitoba.ca