

Food & Human Nutritional Sciences
HNSc/Food 4540 Functional Foods and Nutraceuticals
Fall 2021 Course Outline

ATTENTION STUDENTS RESIDING OUTSIDE WINNIPEG

As this is a remote learning course, please inform your Instructor as soon as possible if you are taking the course while residing outside of Winnipeg, specifically:

- If you are in a rural Canadian area affected by poor internet connections that may impact completing assessments and exams on time
- If you are in another time zone within or outside Canada, specify where you are, and if you foresee any challenges with attending classes and completing assessments and exams on time

NOTE: It is your responsibility to communicate with your instructors 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.

Instructor: Dr. Mohammed Moghadasian, Professor
Telephone: 204-478-1685
Email: mmoghadasian@sbrc.ca
Office Hours: By email communication
Lecture Time: Tuesdays 5:30-7:45PM. Sept 8 to Dec 10, 2021
Location: Online
Platform: Webex (UM Learn)
Course Format: Lecture, Class Discussion
Evaluation: midterm test 50% final exam 50%
Exam Format: Multiple Choice, True/False

Disciplinary Policies: Zero tolerance against unethical behavior/act, general university rules and regulations will be applied.

Grades:

A+ (>90%), A (80-89.9%), B+ (75-79.9%), B (70-74.9%), C+ (65-69.9%), C (60-64.9%), D (50-59.9%), F (<50%)

VW Date: November 23, 2021 (please confirm with your Faculty/Advisor)

IMPORTANT NOTES:

- 1- **The instructor will record the lectures and class discussion and keep them on UofM server**
- 2- **You are NOT allowed to record lectures and class discussions.**
- 3- **You have an option to participate via video conference, audio or to watch and interact by submitting typed questions.**
- 4- **This course is delivered through live streaming.**
- 5- **All assignments and exams are online.**
- 6- **All University of Manitoba regulations and policies MUST be observed.**

Course Description: This course will examine the bioactive components of functional foods and nutraceuticals, their sources, chemistry, process technology, efficacy, safety and regulation.

Prerequisite: [CHEM 2770 or MBIO 2770 (002.277 or 060.277) or CHEM 2360 or MBIO 2360 (002.236 or 060.236)].

3.0 Credit Hours.

Texts and Other Relevant Materials:

Nutraceuticals, Nutrition Supplement and Human Health. Rafat Siddiqui and Mohammed Moghadasian (2020)

Functional Foods and Nutraceuticals. R.E. Aluko (2012)

Functional Foods and Cardiovascular Disease. M. Moghadasian, M. Eskin (2012)

Cereal Grain-Based Functional Foods. Trust Beta (2019)

Nutraceuticals and Functional Foods in Human Health and Disease Prevention. Debasis Bagchi (2015)

Overall Course Objective: The course will provide adequate information for learners to promote their learning and intellectual development in the area of functional foods and nutraceuticals.

Learning Objectives

The learners who successfully complete this course should be able to:

1. Have a general knowledge on development of functional foods and nutraceuticals.
2. Be able to distinguish differences between conventional foods vs. functional foods as well as nutraceuticals vs. pharmaceuticals.
3. Be able to list potential health benefits of common functional foods and nutraceuticals.
4. Know basic physicochemical properties of dietary agents with health promoting properties.
5. Understand how to search and report on a topic of relevance to functional foods and nutraceuticals.

Course Contents:

Sep 14	Introduction to course schedule/materials A historical overview to functional foods and nutraceutical (Dr. Moghadasian)
Sep 21	Dietary antioxidants (Dr. Arnold Hydamaka, guest lecturer)
Sep 28	Functional Drinks (Dr. Arnold Hydamaka, guest lecturer)
Oct 5	Antioxidant testing procedures and development of commercial functional foods (Dr. Hydamaka, Guest speaker)
Oct 12	Functional Proteins & Bioactive Peptides (Dr. Rotimi Aluko, guest lecturer)
Oct 19	Cereal Grains and Human Health (Dr. Trust Beta guest lecturer)
Oct 26	Functional Carbohydrates and Human Health (Dr. Nancy Ames, guest lecturer)
Nov 2	Nutrigenetics and Nutrigenomics (Dr. Peter Eck, guest lecturer)
Nov 9	Fall Term Break
Nov 16	Mid-term exam (50%) including materials from the beginning of the course until the end of Dr. Aluko's lecture on October 12 th .
Nov 23	Functional Lipids and Human Health (Dr. Moghadasian)
Nov 30	Prebiotics, Probiotics and Postbiotics and Human Health (Dr. Moghadasian)
Dec 7	Experimental and Clinical evidence on efficacy of functional foods and nutraceuticals – Most recent studies (Dr. Moghadasian)
TBA	FINAL exam by the Registrar's Office Including materials from Dr. Beta's lecture on Oct 19 th until the end of the course (50%)

Please note the Course Schedule/Syllabus is subject to change.

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
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	3
	Nutrition recommendations and guidelines	3
	Effect of deficiencies and toxicities of nutrients	3
	Food sources of nutrients and dietary supplements	3
	Role of nutrients and other food components in health	3
Nutrition Assessment	Dietary practices	3
	Food and nutrient intake of individuals and populations	3

ALL University of Manitoba Policies and Regulations during Pandemic Are in Effect. Some of the following Services May Not Be Available In-Person during Pandemic

COURSE TECHNOLOGY

It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical and legal manner. The student can use all technology in classroom setting only for educational purposes approved by instructor and/or the University of Manitoba Disability Services.

It is helpful to provide instructions about electronic reserves and library databases. You would include a statement about requirements for a course using technology.
None

If you are using a wiki or a UM Learn, explain how to get access and navigate in these technologies. (see the [Centre For The Advancement Of Teaching & Learning](#) for details on f2f and online resources). Use UM learn by logging in university website and chose for students under online section.

You may link to the Centre's instructional videos on accessing and contributing to wikis and blogs at [http://intranet.umanitoba.ca/academic_support/Centre for the Advancement of Teaching & Learning/resources/wikis_blogs.html](http://intranet.umanitoba.ca/academic_support/Centre_for_the_Advancement_of_Teaching_&_Learning/resources/wikis_blogs.html).

POLICY ON CLASS COMMUNICATION

The University requires all students to activate an official University email account. For full details of the Electronic Communication with Students please visit: [http://umanitoba.ca/admin/governance/media/Electronic Communication with Students Policy - 2014 06 05.pdf](http://umanitoba.ca/admin/governance/media/Electronic_Communication_with_Students_Policy_-_2014_06_05.pdf)

Please note that all communication between me and you as a student must comply with the electronic communication with student policy ([http://umanitoba.ca/admin/governance/governing_documents/community/electronic communication with students policy.html](http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_wit_h_students_policy.html)). You are required to obtain and use your U of M email account for all communication between yourself and the university.

RECORDING CLASS LECTURES

Dr. Moghadasian and the University of Manitoba hold copyright over the course materials, presentations and lectures which form part of this course. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission of Dr. Moghadasian. Course materials (both paper and digital) are for the participant's private study and research.

USING COPYRIGHTED MATERIAL

Please respect copyright. We will use copyrighted content in this course. I have ensured that the content I use is appropriately acknowledged and is copied in accordance with copyright laws and University guidelines. Copyrighted works, including those created by me, are made available for private study and research and must not be distributed in any format without permission. Do not upload copyrighted works to a learning management system (such as UM Learn), or any website, unless an exception to the *Copyright Act* applies or written permission has been confirmed. For more information, see the University's Copyright Office website at <http://umanitoba.ca/copyright/> or contact um_copyright@umanitoba.ca.

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.

STUDENTS ACCESSIBILITY SERVICES

If you are a student with a disability, please contact SAS for 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 <http://umanitoba.ca/student/saa/accessibility/>

520 University Centre

204 474 7423

Student_accessibility@umanitoba.ca

OTHER STUDENT SERVICES

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 201 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 (SCC):

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

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

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

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 of 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> 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/> View the **Student Academic Misconduct** procedure for more information.
- 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. Policies governing behavior include:

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 policy 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/>

520 University Centre

204 474 7423

student_advocacy@umanitoba.ca

Expectations: I Expect You To

To respect and follow all University of Manitoba policies. Follow my course instructions. Contribute to class discussion as much as you can. See [Respectful Work and Learning Environment Policy](#).

Expectations: You Can Expect Me To

Make my lecture environment enjoyable and informative. Be available to help your educational needs as much as possible. Respect inclusivity and accommodate all of your reasonable requests within the University of Manitoba policies. Do my best to teach you updated topics in the area of functional foods and nutraceuticals. See [Respectful Work and Learning Environment Policy](#).
