



HHNS*6400 Functional Foods and Nutraceuticals

Fall 2022

Section(s): C01

Department of Human Health and Nutritional Sciences

Credit Weight: 0.50

Version 1.00 - September 02, 2022

1 Course Details

1.1 Calendar Description

This course considers the relation of nutraceuticals, functional foods, designer foods, medical foods and food additives to foods and drugs. The course emphasizes the development and commercialization of nutraceuticals.

Restrictions: Restricted to Human Health & Nutritional Sciences students.

1.2 Course Description

This graduate-level course will explore numerous aspects of functional foods and nutraceuticals (FFN). Lectures will cover definitions of FFN, the global regulatory arena surrounding FFN, and overall issues related to FFN. Guest seminars and class discussions on selected FFN topics will contribute to the breadth and depth of exposure to FFN. Student-led group presentations and discussions will contribute to exposure to the regulation and related science of functional foods in the marketplace. A semester research review paper will allow students to explore a specific topic within FFN in an in-depth manner. This course will be delivered in a face-to-face format and the lectures will not be recorded.

1.3 Timetable

Course Content: Tentative Class Schedule

(FFN Groups schedule depends how many groups we have):

Week	Class Date	Topic
1	September 13	<p>Course Introduction</p> <p>Lecture (Introduction to FFN and FFN Regulations)</p>
2	September 20	<p>Lecture (Functional Food Consumer Guidance)</p> <p>FF Health Claim Example Presentation (4pm)</p> <p>Patricia Acosta and Megan Fluit, MSc students, HHNS</p>
3	September 27	<p>Discussion of research review paper</p> <p>Guest Selected FFN Topics Seminar (3:30pm)</p> <p>Amy Tucker, Ph.D., HNRU Manager</p> <p>HHNS, University of Guelph</p>

4	October 4	Lecture (FFN: The Canadian Context)
5	October 11	NO CLASS University Holiday
6	October 18	FF Health Claims Presentations (Groups 1 and 2) Lecture (The Canadian Context)
7	October 25	FF Health Claims Presentations (Group 3) Guest Selected FFN Topics Seminar (3:45pm) Cynthia Richard, BScPh, Ph.D., Professor School of Pharmacy, University of Waterloo

8 November 1 FF Health Claims Presentations (Groups 4 and 5)

Lecture (FFN: The United States Context)

9 November 8 FF Health Claims Presentations (Group 6)

Guest Selected FFN Topics Seminar (3:45pm)

Christopher Marinangeli, Ph.D., R.D.

Director, Regulatory Centre of Excellence

Protein Industries Canada

10 November 15 FF Health Claims Presentation (Group 7)

Lecture (FFN in Canada and US catch-up)

Guest Selected FFN Topics Seminar (4pm)

Krista Coventry, M.Sc., HHNS PhD Student part-time

Director of Regulatory Services - Eastern Canada

Source Nutraceutical Inc.

11 November 22

FF Health Claims Presentations (Group 8)

Guest Selected FFN Topics Seminar (3:30pm)

Mark Dekker, PhD

Principal Scientist, PepsiCo Canada

12 November 29

FF Health Claims Presentations (Groups 9 and up)

Lecture (FFN: Japanese and European Contexts)

Course wrap-up

13

Wed Nov 30

Special Wednesday Class (afternoon timing TBD)

showcase

Visit and feedback on NUTR339 class projects

1.4 Final Exam

There is no final exam for this course.

2 Instructional Support

Instructor

Alison M. Duncan, PhD, RD, FDC

Email: amduncan@uoguelph.ca

Office: ANNU347

Office Hours: Anytime by appointment.

3 Learning Resources

3.1 Learning Resources

This course will use Courselink where materials for each class will be posted.

4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. 1. Have a comprehensive understanding of what constitutes functional foods and nutraceuticals.
 2. Be aware of the global regulatory issues pertaining to functional foods and nutraceuticals.
 3. Appreciate the impact of regulation on the development and commercialization of functional foods and nutraceuticals.
 4. Understand the role of selected functional foods and nutraceuticals in health and disease.
 5. Become aware of specific research areas within functional foods and nutraceuticals.
 6. Have improved oral communication and interpersonal skills.
 7. Have improved scientific writing and written communication skills.
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5 Teaching and Learning Activities

5.1 Class Assignments

Guest Selected FFN Topics Seminars:

- Include your thoughts in your Semester Reflection Log Book immediately after or during class.
- Come to the next class ready to briefly discuss the speaker's presentation.

Research Review Paper (worth 55%):

- Your opportunity to expand your knowledge on a topic of your choice within FFN.
- Have your topic approved by the instructor as soon as possible.
- Make this an enjoyable process; work on it throughout the semester as you will need time to gather information, think about the material, etc.
- Format requirements: 10-15 pages plus references and cover page, double spaced, consistent reference style. **DUE before Tuesday December 6, 2022** emailed to me in WORD with the file name HHNS6400-ReviewPaper-FirstnameLastname.

FF Health Claims Scientific Substantiation Report (worth 20%):

- Form a group of 2 with a classmate.
- Select a Canadian food product from the marketplace that has at least one disease risk reduction, therapeutic or nutrient function claim and have the product approved by the instructor (this will ensure a spread of coverage of the approved disease risk-reduction and therapeutic claims).
- Include an introduction paragraph.
- Include background information about the product
- Study and summarize all of the types of nutritional guidance information provided on the product (product name, ingredient list, front-of-pack labels, nutrient content claims, health claims).
- Include commentary on the usefulness of this guidance information in providing relevant information for the consumer.
- For your selected health claim that is on the product, provide scientific substantiation for the claim's efficacy and provide an overall assessment.
 - Find at least 5 primary research articles that support the claim and summarize why this study was selected, summarize the study and how it does or does not support the claim. At least one of these articles should focus on the pertinent bioactive ingredient of the claim; at least one of these articles should focus on the efficacy of the bioactive within a food matrix.
 - Include commentary on the strength of the scientific evidence available to support the claim and if your group would approve this claim for this product.
- Include a summary/ending paragraph.
- Format requirements: minimum 10-15 pages (however, flexible in length) plus references and cover page, double spaced, consistent reference style. DUE 1-2 weeks following your FF Health Claims Substantiation Presentation and Discussion or before the 40th class day (which ever comes first); email to me in WORD with the filename HHNS6400-FFReportGroupX.

FF Health Claims Scientific Substantiation Presentation and Discussion (worth 20%):

- Sign your group up for a presentation time-slot.
- Provide informative facts about the product (name, company, price, other basic information)
- Summarize all of the types of nutritional guidance information provided on the product
- Focus on the health claim that you have selected and what scientific literature contributes to its substantiation (like the report).
- Include your group's overall assessment of the science related to the claim.
- Include relevant discussion questions to facilitate a class discussion.
- Keep timing at 30 minutes total and provide your presentation (allow some time for discussion throughout and/or at end of the presentation).
- In advance of your presentation (morning of is OK), email the instructor a PDF file of your presentation (format 3 slides per page) for posting to the course website. This will allow your classmates can do some preparation reading and have access to your presentation during the class to make notes.

Semester Reflection Log Book (worth 5%):

- The purpose is for you to reflect upon every class and expand your thoughts and ideas.
- It is best to do this the same day or the following day while your ideas are fresh in your mind.
- Make note of your thoughts articulated into at least 3 key concepts/issues that you learned. Make note of any questions remaining in your mind and/or things you intend to follow-up on.
- If you were absent, state that and note what you gathered from your classmates and/or your own reading and study.
- Format requirements: no length requirement (recommend <1 page per class), include a cover page. **DUE before Monday December 12, 2022 midnight** emailed to me in WORD with the file name HHNS6400-Logbook-FirstnameLastname.

6 Assessments

6.1 Marking Schemes & Distributions

Methods of Assessment

Form of Assessment	Weight of Assessment	Due Date of Assessment	Course Content /Activity	Learning Outcome Addressed
Research Review Paper	55%	Tuesday December 6, 2022	Lecture, non- lecture	1, 4, 5, 7
FF Health Claims Scientific Substantiation Presentation and Discussion	20%	Group-specific	Lecture, non- lecture	1, 2, 3, 4, 5, 6, 7
FF Health Claims Scientific Substantiation Report	20%	Within 1-2 weeks following your group presentation or before 40th class day)	Lecture, non- lecture	1, 2, 3, 4, 5, 7
Semester Reflection Log Book	5%	Monday December 12, 2022	Lecture, non- lecture	1, 2, 3, 4, 5, 7

7 Department of Human Health and Nutritional Sciences Statements

7.1 Academic Advisors

If you are concerned about any aspect of your academic program:

- Make an appointment with a program counsellor in your degree program. [B.Sc. Academic Advising](#) or [Program Counsellors](#)

7.2 Academic Support

If you are struggling to succeed academically:

- Learning Commons: There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist. <http://www.learningcommons.uoguelph.ca/>
- Science Commons: Located in the library, the Science Commons provides support for physics, mathematic/statistics, and chemistry. Details on their hours of operations can be found at: <http://www.lib.uoguelph.ca/get-assistance/studying/chemistry-physics-help> and <http://www.lib.uoguelph.ca/get-assistance/studying/math-stats-help>

7.3 Wellness

If you are struggling with personal or health issues:

- Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance. <https://www.uoguelph.ca/counselling/>
- Student Health Services is located on campus and is available to provide medical attention. <https://www.uoguelph.ca/studenthealthservices/clinic>
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations. <http://www.selfregulationskills.ca/>

7.4 Personal information

Personal information is collected under the authority of the University of Guelph Act (1964), and in accordance with Ontario's Freedom of Information and Protection of Privacy Act (FIPPA) <http://www.e-laws.gov.on.ca/index.html>. This information is used by University officials in order to carry out their authorized academic and administrative responsibilities and also to establish a relationship for alumni and development purposes.

For more information regarding the Collection, Use and Disclosure of Personal Information policies please see the Undergraduate Calendar.
(<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/intro/index.shtml>)

7.5 Course Offering Information Disclaimer

Please note that course delivery format (face-to-face vs online) is subject to change up to the first-class day depending on requirements placed on the University and its employees by public health bodies, and local, provincial and federal governments. Any changes to course format prior to the first class will be posted on WebAdvisor/Student Planning as they become available.

8 University Statements

8.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

8.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

8.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and

alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

8.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

8.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to make a booking at least 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

For Guelph students, information can be found on the SAS website

<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website

<https://www.ridgetownc.com/services/accessibilityservices.cfm>

8.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of

their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

8.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

8.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

8.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

8.10 Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g.. final exam or major

assignment).

8.11 Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campus/how-u-of-g-is-preparing-for-your-safe-return/>
- <https://news.uoguelph.ca/return-to-campus/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.
