

**University of Guelph**  
**College of Biological Science**  
**Department of Human Health and Nutritional Sciences**  
**COURSE OUTLINE**  
**HHNS\*6400: Functional Foods and Nutraceuticals**  
**Fall 2016**

### **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.

### **Instructor**

Alison M. Duncan, Ph.D., R.D.  
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Phone: 824-4120 ext. 53416  
Email: amduncan@uoguelph.ca

Office Hours: anytime by appointment

### **Class Schedule**

Classes: Tuesdays 2:30pm to 5:20pm in Food Science 241

### **Learning Goals**

Upon completion of this course, students should:

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 discussion skills.
7. Have improved scientific writing skills.

## Course Resources

This class will use the online Courselink system where notes and lectures will be posted each week.

## Course Content (Tentative Class Schedule):

<b>Week</b>	<b>Class Date</b>	<b>Topic</b>
1	September 13	Course Introduction Lecture (Introduction to FFN and FFN Regulations)
2	September 20	Lecture (Functional Food Consumer Guidance) FF Health Claim Example Presentation (3:30pm) (Meg Racey, M.Sc., Ph.D. student, HHNS) Lecture (FFN: The Canadian Context; part I)
3	September 27	Guest Selected FFN Topics Seminar (2:30pm) Bruce Holub, Ph.D., Professor Emeritus Dept. of Human Health & Nutritional Sciences, University of Guelph
4	October 4	Lecture (FFN: The Canadian Context; part II) Guest Selected FFN Topics Seminar (4pm) Kim Bretz, B.Sc., N.D. (Naturopathic Doctor)
5	October 11	NO CLASS University Holiday
6	October 18	FF Health Claims Presentations (Groups 1 and 2) Lecture (FFN: The United States Context; part I) Lecture (FFN: The United States Context; part II)
7	October 25	FF Health Claims Presentations (Groups 3 and 4) Guest Selected FFN Topics Seminar (3:45/4pm) Christopher Marinangeli, Ph.D., R.D. Director, Nutrition Science and Regulatory Affairs Pulse Canada
8	November 1	FF Health Claims Presentations (Groups 5 and 6) Lecture (FFN: The Japanese Context)
9	November 8	FF Health Claims Presentations (Group 7 and 8) Guest Selected FFN Topics Seminar (3:45pm) Cynthia Richard, BScPh, Ph.D., Clinical Assistant Professor, School of Pharmacy, Univ. of Waterloo

10	November 15	Lecture (FFN: Relevance of Front-of-pack labels) FF Health Claims Presentation (Group 9) Guest Selected FFN Topics Seminar (3:45pm) Krista Coventry, M.Sc., HHNS PhD Student part-time Director of Regulatory Services - Eastern Canada Source Nutraceutical Inc.
11	November 22	Lecture (Exploring “natural” as it pertains to foods) FF Health Claims Presentations (Group 10) Guest Selected FFN Topics Seminar (3:45pm) Jenny Gusba, Ph.D. Director, Nutrition Sciences, Global Beverages PepsiCo
12	November 29	Lecture (FFN: European Context) FF Health Claims Presentations (Group 11 if needed) Semester catch-up and wrap-up
13	Wed** November 30	Special Wed Class at 230pm Review NUTR339 class projects showcase

**Guest Selected FFN Topics Seminars:**

- Include your thoughts in your Semester Reflection Log Book after 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 Wednesday December 7, 2016** emailed to me in WORD with the file name HHNS6400-ReviewPaper-FirstnameLastname.

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

- Form groups of up to 3 students. 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).
- 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 one of the health claims provided 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 how they 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.
- 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; email to me in WORD with the filename HHNS6400-FFReportGroupX.

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

- Have your group sign up for a presentation time-slot.
- The goal is to share what your group has learned from your work on the FF Health Claims Scientific Substantiation Report and facilitate a class discussion.
- Provide background about the product and the guidance information its labels contain.
- Focus on the health claims and what scientific literature contributes to its substantiation.
- 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 (by end of day before), 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 it the following day while the issues 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 Friday December 9, 2016** emailed to me in WORD with the file name HHNS6400-Logbook-FirstnameLastname.

**Methods of Assessment**

<b>Form of Assessment</b>	<b>Weight of Assessment</b>	<b>Due Date of Assessment</b>	<b>Course Content /Activity</b>	<b>Learning Outcome Addressed</b>
Research Review Paper	55%	Wednesday December 7, 2016	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	Lecture, non-lecture	1, 2, 3, 4, 5, 7
Semester Reflection Log Book	5%	Friday December 9, 2016	Lecture, non-lecture	1, 2, 3, 4, 5, 7

**Course and University Policies**

**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. See the undergraduate calendar for information on regulations and procedures for [Academic Consideration](#).

**Accessibility**

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact Student Accessibility Services (formerly the Centre for Students with Disabilities) as soon as possible.

For more information, contact [Student Accessibility Services](#) at 519-824-4120 ext. 56208 or email [csd@uoguelph.ca](mailto:csd@uoguelph.ca).

### **Academic Misconduct**

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 discourages misconduct. 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.

The [Academic Misconduct Policy](#) is detailed in the Undergraduate Calendar.

### **E-mail Communication**

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

### **Drop Date**

The last date to drop one-semester courses, without academic penalty, is the 40<sup>th</sup> class day. To confirm the actual date please see the schedule of dates in the Undergraduate Calendar. For regulations and procedures for Dropping Courses, see the [Undergraduate Calendar](#).

### **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.

### **Recording of Materials**

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

### **Grading**

Please submit your assignments electronically to the course instructor. Late penalties of 5% per day will apply.

## Campus Resources

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

Make an appointment with a [Program Counsellor](#) in your degree program.

### **If you are struggling to succeed academically:**

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.

### **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.

[Student Health Services](#) is located on campus and is available to provide medical attention.

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.

### **If you have a documented disability or think you may have a disability:**

[Student Accessibility Services](#) (SAS) formerly Centre for Students with Disabilities can provide services and support for students with a documented learning or physical disability. They can also provide information about how to be tested for a learning disability.