

## DEPARTMENT OF HUMAN BIOLOGY AND NUTRITIONAL SCIENCES

### HHNS 6040: Research Fronts in Nutritional and Nutraceutical Sciences - Fall 2013

#### Instructor

Dr. Genevieve Newton - newton@uoguelph.ca

ANNU 371B - office hours can be scheduled by appointment.

#### Meeting Times:

Wednesday 9:30am – 12:30pm SCIE 3317

OR

Friday 9:30am – 12:30pm SCIE 3317

#### Calendar Description

Building on an information base in nutrition, biochemistry and physiology, the course comprises selected research topics relating to the importance of nutrition as a determinant of health throughout the life span and in relation to prevention and treatment of disease. Distinction will be drawn between the metabolic basis of nutrient essentiality and the health-protecting benefits of nutrients, nutraceuticals, and phytochemicals.

#### Detailed Description

##### A) Objectives

The course is designed to meet the following Learning Objectives of the University:

- 1) **Literacy:** The quality of written communication will be a major factor in the assessment of written work.
- 2) **Understanding of Forms of Inquiry:** A major theme of this course will pertain to the process whereby worthwhile research questions are identified and tackled.
- 3) **Depth and Breadth of Understanding:** This course will cross several conventional discipline boundaries within the broad areas of biology and health studies. Moreover, students will be encouraged to go beyond material discussed in class.
- 4) **Independence of Thought:** Emphasis will be placed on identifying and understanding the basis for current viewpoints. Inevitably, this results in challenges to orthodoxy.
- 5) **Love of Learning:** This course will be aimed at helping students to distinguish between education and training, and to ascribe value to both.

##### B) Topics to be Covered

#### Individual Presentations : NUTRITION THROUGHOUT THE LIFE SPAN

- a) N-3 Fatty Acids – Metabolism, function in development and in prevention/treatment of disease
- b) Caloric Restriction & Aging - Mechanisms of lifespan extension by reduced caloric intake
- c) Vitamin D - Metabolism, function in development and in prevention/treatment of disease

## **Group Presentations: NUTRITION AND CHRONIC DISEASE**

- a) Antioxidants & Cancer
- b) Coffee & Liver Cirrhosis
- c) Folate & Cancer
- d) Oxidant Stress & Neurodegeneration
- e) Folate & CVD
- f) Calcium & Osteoporosis
- g) “Healthy Obese”?
- h) Salt & Hypertension

### **C) Method of Course Presentation**

The first 3 weeks of the course will introduce students to the research, presentation, and writing skills that will be emphasized in the course. Targeted workshops to practice these skills will take place, with students having the opportunity to practice and improve their abilities in a non-evaluative environment.

Following this, during weeks 3-10, the class will include both individual presentations and small group breakout group discussions related to current papers in nutrition and nutraceutical science research. It is intended that the individual presentations will follow a Journal Club format. Thus, each topic indicated in this course outline will be addressed by a number of journal article presentations, and it is expected that students will read at EACH PAPER that will be discussed in each upcoming class, and will contribute questions to class discussions on a weekly basis. Presenters will need to provide some carefully selected background information to the specific research in each paper, followed by a description of key methodology and results as well as a critical assessment of the conclusions and the contribution of the paper to our understanding of the field. A detailed description of the individual presentation and the assignment marking scheme is provided in the course website. During the breakout group discussions, students will develop novel research questions and propose experimental designs and methods. Students are expected to attend class each week, and a portion of the final course grade will be derived from participation in discussions related to the individual presentations and the breakout groups.

The final two weeks of the class (weeks 11 & 12) will follow a “teaching research” seminar format. Each topic will be addressed by groups of 3-4 students assuming the roles of educators, with presentation of background material and primary and secondary literature aimed at answering a broadly focused research question. A detailed description of the group presentation and the assignment marking scheme is provided in the course website.

So, each student will make two presentations throughout the course, one individually at some point during weeks 3-10 and one as a group member in either week 11 or week 12.

In addition, each student will write one term paper. The essay may be on a topic of interest in the field of nutrition and nutraceutical sciences. A detailed description of the term paper and the assignment marking scheme is provided in the course website.

#### D) Method of Evaluation

Individual Presentation	30%
Group Presentation	30%
Term Paper	30%*
Participation	<u>10%**</u>
	100%

\*The term paper grade includes submission of a research proposal, participation in the peer review process during week 9, and submission of the final written paper in week 12. Failure to submit the proposal or the peer review on the due date will result in a 2% penalty off the final paper grade. Failure to submit the term paper on the due date will result in a 2% penalty for each day late, until 5 days, after which time the paper will no longer be accepted for grading.

\*\* The participation grade is derived from:

- (i) submission of weekly questions to the Courselink discussion board for each assigned paper (2 questions per paper)
- (ii) participation in class discussions related to all course activities
- (iii) participation in the breakout groups related to research questions/design/methods

#### **Additional Information**

##### 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.

##### 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 in writing, with your name, id#, and e-mail contact. See the graduate calendar for information on regulations and procedures for Academic Consideration: [http://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/sec\\_d0e1400.shtml](http://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/sec_d0e1400.shtml)

##### Drop Date

The last date to drop one-semester courses, without academic penalty, is Thursday October 31st. Refer to the Graduate Calendar for the schedule of dates: <http://www.uoguelph.ca/registrar/calendars/graduate/current/sched/sched-dates-f10.shtml>

##### 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. The Academic Misconduct Policy is detailed in the Graduate Calendar: [http://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/sec\\_d0e1687.shtml](http://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/sec_d0e1687.shtml)

### Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded in any electronic media without the permission of the presenter, whether the instructor, a classmate or guest lecturer.

### Resources

The Graduate Calendar is the source of information about the University of Guelph's procedures, policies and regulations which apply to graduate programs:

<http://www.uoguelph.ca/registrar/calendars/graduate/current/>