



COLLEGE of SOCIAL AND APPLIED HUMAN SCIENCES

DEPARTMENT OF FAMILY RELATIONS
AND APPLIED NUTRITION

NUTR*4900 Selected Topics in Human Nutrition Nutrition, Physical Activity and Sports Performance COURSE OUTLINE – FALL 2018

1. CALENDAR DESCRIPTION

This course requires reading and discussion on selected areas in human nutrition and its application; formal class reports and term papers. Primarily for Applied Human Nutrition majors

Credit Weight:	0.5 credits
Course Hours:	3-0 (24 lecture; 0 lab/seminar)
Pre-Requisite(s):	FRHD*3070, (NUTR*3040 or NUTR*3090), NUTR*4010
Co-Requisites(s):	None
Restriction(s):	Registration in B.A.Sc. AHN major

2. COURSE DESCRIPTION

This course requires reading and discussion on selected areas in human nutrition and its application; oral presentations and term papers. The topic focus will be recent studies in nutrition, physical activity and sports performance. Primarily for Applied Human Nutrition majors.

3. TIMETABLE

Lecture:	Tuesday and Thursday, 08:30AM - 09:50AM
Location:	MINS, Room 101
Final Exam:	There is no final exam for this course

4. INSTRUCTIONAL SUPPORT

Course Instructor:	Dalia El Khoury, PhD
Email:	delkhour@uoguelph.ca
Telephone:	519-824-4120 ext. 56326
Office:	MACS 226
Office Hours:	by appointment

Course Instructor: Paula Brauer, PhD RD FDC
Email: pbrauer@uoguelph.ca

Telephone: 519-824-4120 x54831

Office: MINS 235

Office Hours: by appointment

5. LEARNING RESOURCES

Required Resource(s):

Burke LM, Ross ML, Garvican-Lewis LA, Welvaert M, Heikura IA, Forbes SG, Mirtschin JG, Cato LE, Strobel N, Sharma AP, Hawley JA. Low carbohydrate, high fat diet impairs exercise economy and negates the performance benefit from intensified training in elite race walkers. *J Physiol*. 2017 May 1;595(9):2785-2807.

Gracia-Marco L, Bel-Serrat S, Cuenca-Garcia M, Gonzalez-Gross M, Pedrero-Chamizo R, Manios Y, Marcos A, Molnar D, Widhalm K, Polito A, Vanhelst J, Hagströmer M, Sjöström M, Kafatos A, de Henauw S, Gutierrez Á, Castillo MJ, Moreno LA; HELENA Study Group. Amino acids intake and physical fitness among adolescents. *Amino Acids*. 2017 Jun;49(6):1041-1052.

Hamarsland H, Nordengen AL, Nyvik Aas S, Holte K, Garthe I, Paulsen G, Cotter M, Børsheim E, Benestad HB, Raastad T. Native whey protein with high levels of leucine results in similar post-exercise muscular anabolic responses as regular whey protein: a randomized controlled trial. *J Int Soc Sports Nutr*. 2017 Nov 21;14:43.

Naclerio F, Larumbe-Zabala E, Ashrafi N, Seijo M, Nielsen B, Allgrove J, Earnest CP. Effects of protein-carbohydrate supplementation on immunity and resistance training outcomes: a double-blind, randomized, controlled clinical trial. *Eur J Appl Physiol*. 2017 Feb;117(2):267-277.

Smirmaul BP, de Moraes AC, Angius L, Marcora SM. Effects of caffeine on neuromuscular fatigue and performance during high-intensity cycling exercise in moderate hypoxia. *Eur J Appl Physiol*. 2017 Jan;117(1):27-38.

Evans M, Guthrie N, Pezzullo J, Sanli T, Fielding RA, Bellamine A. Efficacy of a novel formulation of L-Carnitine, creatine, and leucine on lean body mass and functional muscle strength in healthy older adults: a randomized, double-blind placebo-controlled study. *Nutr Metab (Lond)*. 2017 Jan 18;14:7.

Kramer SJ, Baur DA, Spicer MT, Vukovich MD, Ormsbee MJ. The effect of six days of dietary nitrate supplementation on performance in trained CrossFit athletes. *J Int Soc Sports Nutr*. 2016 Nov 3;13:39.

Decroix L, Tonoli C, Soares DD, Descat A, Driittij-Reijnders MJ, Weseler AR, Bast A, Stahl W, Heyman E, Meeusen R. Acute cocoa flavanols intake has minimal effects on exercise-induced oxidative stress and

nitric oxide production in healthy cyclists: a randomized controlled trial. *J Int Soc Sports Nutr.* 2017 Aug 10;14:28.

Jäger R, Shields KA, Lowery RP, De Souza EO, Partl JM, Hollmer C, Purpura M, Wilson JM. Probiotic *Bacillus coagulans* GBI-30, 6086 reduces exercise-induced muscle damage and increases recovery. *PeerJ.* 2016 Jul 21;4:e2276.

Crum EM, Che Muhamed AM, Barnes M, Stannard SR. The effect of acute pomegranate extract supplementation on oxygen uptake in highly-trained cyclists during high-intensity exercise in a high altitude environment. *J Int Soc Sports Nutr.* 2017 May 31;14:14.

Flueck JL, Schlaepfer MW, Perret C. Effect of 12-Week Vitamin D Supplementation on 25[OH]D Status and Performance in Athletes with a Spinal Cord Injury. *Nutrients.* 2016 Sep 22;8(10).

McClung JP, Karl JP, Cable SJ, Williams KW, Nindl BC, Young AJ, Lieberman HR. Randomized, double-blind, placebo-controlled trial of iron supplementation in female soldiers during military training: effects on iron status, physical performance, and mood. *Am J Clin Nutr.* 2009 Jul;90(1):124-31.

The PDF versions of these resources are available on CourseLink site in the Content section.

Recommended Resource(s):

None

6. LEARNING OUTCOMES

At the completion of the course, successful students will be able to:

1. To develop competency in the description and critical appraisal of journal articles in selected applied nutrition topic areas.
2. Effectively communicate – in writing and orally – critical appraisals of research and research articles.
3. To gain proficiency in facilitating and participating in informed discussion about research.
4. To develop peer review skills on oral and written work appraising the research literature.

7. TEACHING AND LEARNING ACTIVITIES

Week	Topics	Assigned Readings & Guest Speakers	Notes & Due Dates
1	September 6	Course introduction Assignment of presentations and presentation dates	Course outline

Week	Topics	Assigned Readings & Guest Speakers	Notes & Due Dates
2	September 11	Jacqueline McIsaac – workshop on writing strategies for literature reviews	
	September 13	Review of research methods and critical appraisal	Handout “Using a scientific journal article to write a critical review” – check appendices of the course outline and Courselink
3	September 18	Lucia Costanzo - Qualtrics and critical evaluation of stats	
	September 20	Sample article critique Discussion of individual seminars	Lara et al. 2015. Acute consumption of a caffeinated energy drink enhances aspects of performance in sprint swimmers. Br J Nutr; 114(6): 908-914.
4	September 25	Presenters: Discussants:	
	September 27	Presenters: Discussants:	
5	October 2	Presenters: Discussants: Presenters: Discussants:	
	October 4	Presenters: Discussants: Presenters: Discussants:	
6	October 9	No class	
	October 11	Presenters: Discussants: Presenters: Discussants:	
7	October 16	Madeline Donnelly – literature review searching strategies for your term paper	
	October 18	No class – work on written article and individual seminar	

Week	Topics	Assigned Readings & Guest Speakers	Notes & Due Dates
8	October 23	Return written article critique – due in Dropbox by 11:59 PM	
	October 25	Seminars:	
9	October 30	Seminars:	
	November 1	Seminars:	
10	November 6	Seminars:	
	November 8	Seminars:	
11	November 13	Seminars:	
	November 15	Seminars: Draft of term paper due in Dropbox by 11:59 PM	
12	November 20	Seminars:	
	November 22	No class – work on term paper	
13	November 27	Self-reflection on engagement due in Dropbox by 11:59 PM	
	November 29	Term paper due in Dropbox by 11:59 PM	

Note: This is a tentative schedule; however, due to various unknown factors there may be changes. Any changes will be announced during class and an announcement will be posted on the CourseLink site.

8. ASSESSMENT DETAILS

Assessment	Due Date	% of Final
Oral		
A1. Critique of assigned reading (each person)	September 25-October 11	15
A2. Facilitate discussion of critique of assigned reading	September 25-October 11	5
B1. Presentation on term topic (individual seminar)	October 25-November 20	20
C. Meaningful participation in class discussions	Ongoing	10
C1. Self-reflection on engagement	November 27	
Written		
A3. Critique of three articles from section 1 group of assigned readings plus background	October 23	10

B2. Peer review of term paper	November 15-November 22	10
B3. Comprehensive literature review on term topic	November 29	30
Total:		100%

COURSE COMPONENT DESCRIPTIONS AND INSTRUCTIONS – Check forms uploaded on Courselink

A1. Oral presentation of articles' critique (15%)

You and a classmate will work together to present the oral critique of an assigned article. Dr. El Khoury will group you into groups of two. A lottery system will be used to determine the article you will be critiquing. In preparing the presentation, seek out background information necessary to understand the article, and be able to explain the research methods and results to the class, as well as provide a critique of the article. Be prepared to answer questions concerning the article. Each presentation will be followed by general class discussion led by one discussant.

Each presentation should be 15-20 minutes, followed by 10 minutes of discussion. Post your PowerPoint presentation to the Courselink Dropbox by 10:00 AM the day of your presentation. If the presentation is posted after 10:00 AM the day of your presentation, it will be considered late and you will incur a 10% penalty. Your posted presentation will be considered the final version - revised presentations will not be accepted. You and your partner will receive the same grade for content, but different grades for presentation style.

A2. Discussant for Articles' Critique (5%):

Two discussants will be assigned to each presentation. As a discussant, your role is to:

- Thank the presenter
- Lead a 10-minute discussion, facilitating class involvement.
 - Identify two (2) issues/findings in the areas of sampling, study design, and/or measurement
 - Ask two (2) pertinent questions to class to encourage discussion
 - Presenter can clarify points and participate in discussion
 - Summarize discussion at the end, giving final interpretation and overview
- **You will not use PowerPoint as the discussant.**

A3. Individual critique of three articles (10%)

You are to independently complete a critique of three articles from section 1, that you did not review for the oral presentation or were a discussant for.

Provide some background and context for the topic before reviewing the three articles and critically integrating these reviews. The summary of the research articles should cover the methods used, the key results, the key strengths and limitations including risk of bias or other quality assessment review (as you see it, not just as the authors describe them), and three (3) recommendations (1 per article) you would implement to improve the studies if you were to lead them. The discussion of the three

articles should consist of a critical evaluation of what is known so far about the topic, and general implications for practice or further research.

The critique has a maximum of 8000 characters including spaces or about 4 pages (8.5" x 11" paper; double-spaced; 2.5 cm margins; 12-point font size). The page limit does include any tables or graphs, but does not include separate pages for the title page and the reference section (use single space). If more than 4 pages of review are submitted, only the first 4 pages will be graded. You should paraphrase rather than use quotations extensively.

B1. Presentation on Term Topic (20%)

You will present a 20-25-minute talk on your topic and lead the discussion period after of approximately 10 minutes. Choose three primary (i.e. original) research articles to discuss. Because research articles are highly focused, you'll need to seek out background information to understand your topic when preparing for the seminar. Review articles can be used to provide an overview of the topic, but should not be included as one of the original research articles in your presentation. Allow adequate time for ordering any articles not available locally through inter-library loan.

A lottery system will be used to determine the date of your seminar. You should share your topic with Dr. El Khoury by **October 4** for approval.

Post your PowerPoint presentation to Dropbox by 10:00 AM the day of your seminar. If the presentation is posted after 10:00 AM the day of your presentation, it will be considered late and you will incur a 10% penalty. Your posted presentation will be considered the final version - revised presentations will not be accepted.

B2. Peer review of term paper (10%)

Your completed draft term paper will be peer-reviewed by another student. A substantially incomplete draft will not be peer-reviewed, as determined by the instructor. Students doing peer reviews will be marked on the quality of their peer-review. Each student will submit a draft of their paper to Courselink by **November 15**. The paper will then be sent to an anonymous reviewer who will complete the peer review form, and will make comments and suggestions for change using Track Changes. They will submit their forms and reviews to Dropbox by **November 22**. I will send the review back to each author by email. Peer reviewers are anonymous, but authors are not because of the oral presentations.

B3. Submission of Final Term Paper (30%)

You will have until **November 29** to complete the paper and address the suggestions from the peer reviewer that you feel improve the paper. The final paper will be submitted to Courselink as a Word document.

Guidelines for Term Paper

The term paper should be 25,000 characters (with spaces) or less or about 12 pages long and include an introduction (including your research question), a summary of the main findings, completion of quality assessment, discussion of the strengths and limitations of the research, implications of the results, conclusions, and your suggestions for future research/implications for practice. If more than 12 pages of review are submitted, only the first 12 pages will be graded. Use headings and sub-headings to organize your report and include page numbers. At least **10 recently-published, "primary" journal**

articles should be critiqued to address your research question. You can include the same three articles from your seminar in your term paper. If you decide to use tables to summarize the studies, the paragraph text must complement and integrate findings in the tables.

Checklist for the term paper:

- Maximum of 25,000 characters or about 12 pages
- Should have a title page, reference section (use single space for the reference section), and appendix that shows the abstracts for each "primary" journal article reviewed in the paper
- Your name and page numbers are in the header or footer of the document
- Double-spaced
- 2.5 cm. margins
- 11-12-point font size

The character and page limit does not include the number of separate pages for the title page, the reference section, and the appendix.

C. Participation (10%)

Participation in class discussions is an essential component of the course. Therefore, it is expected that you attend and participate fully in all sessions. You are expected to come to class prepared to ask discussion questions and to comment on questions raised by the discussants. Your preparation and participation in the discussions will contribute to our learning experience and will be appreciated by all. The required readings for the first half of the semester are conveniently posted to CourseLink.

The participation grade completed by the instructor will be based on two components: a) the first component is based on attendance (attendance list) and b) the frequency and quality of your oral participation in class (Instructor grade). Another component of the participation grade will be based on your self-reflection on engagement. Assign yourself a grade out of 10 for this component – I will take your self-assigned grade into consideration in determining your overall grade for participation. The self-reflection is due Tuesday **November 27** by 11:59 PM in Dropbox.

9. COURSE STATEMENTS

Managing Evidence:

Citation Manager

It is recommended you learn to use a citation manager to manage references for your term paper. It allows you to collect references from a wide variety of electronic resources (e.g., PubMed) to create your own personal reference database. If you use Microsoft Word, your collected references can be seamlessly integrated into your term paper following any known standard format for the text of the paper and the reference list. <http://www.lib.uoguelph.ca.subzero.lib.uoguelph.ca/get-assistance/writing/citations>

Statistics Help

- You can consult a statistician to help with interpretation of data analysis
- The Data Resource Centre in McLaughlin library can help. Here's how:
 - o Go to the UG Library website

- o Click Get Assistance > Map, GIS & Data > Book Maps, GIS & Data Appointments
- o State in the message you are enrolled in NUTR*4900
- o Once the form is submitted, the DRC staff will forward the message accordingly. Within 24 hours, you can expect a response regarding setting up a consultation.

Communicating

a. Paraphrasing others' ideas and work Knowing how to summarize or adapt others' work for different purposes is a key skill needed in applied nutrition. Visit the Library's Citation Help page for help with citing: <https://www.lib.uoguelph.ca/get-assistance/writing/citations>

b. Referencing Style Nutrition journals use many different styles for referencing – for this course pick either APA (name, year) OR CS (citation-sequence) and use it correctly.

<https://www.lib.uoguelph.ca/get-assistance/writing/citations>

Course Website:

There is a course website at <http://courselink.uoguelph.ca>. All components of this course will be housed on the CourseLink site including this course outline, assignments, and links to further resources. Your assignments will be submitted through the Dropbox function. Marks and feedback will also be released on the site. Please familiarize yourself with this website as soon as possible and visit it regularly throughout the semester.

Late Assignments:

If you are not able to meet an in-course requirement due to illness or compassionate reasons, please advise me in writing (email is acceptable). Where possible, this should be done in advance of the missed work or event. If this is not possible, this should be done as soon as possible after the due date, and certainly no later than one week. If appropriate, documentation of your inability to meet the course requirement is necessary. See the undergraduate calendar for information on regulations and procedures for Academic Consideration:

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

Late assignments will be accepted up to 5 days following the due date and will receive a penalty of 10% per day EXCEPT under documented grounds for compassionate consideration. Assignments submitted more than one week late without documented grounds will receive a grade of zero.

Receipt of Grades:

After you receive a grade on CourseLink, please review your feedback. Any inquiry or dispute over the grade must be made within two weeks from the date they are posted. If you fail to protest any grade during this time limit, changes to the grade will not be considered. [Grades will be based on the Grading Procedures outlined in the Undergraduate Calendar.](#)

Turnitin Software:

Course instructors are allowed to use software to help in detecting plagiarism or unauthorized copying of student assignments. Plagiarism is one of the most common types of academic misconduct. Plagiarism involves students using the work, ideas and/or the exact wording of other people or sources without giving proper credit to others for the work, ideas and/or words in their papers. Students can unintentionally commit misconduct because they do not know how to reference outside sources properly or because they don't check their work carefully enough before handing it in. As the Undergraduate Calendar states: "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".

In this course, both the students and instructor can use Turnitin.com to detect possible plagiarism, unauthorized collaboration or copying. You are encouraged but not required to screen your own written assignments through Turnitin as many times as you wish before the due date. You will be able to see and print reports that show you exactly where you have properly and improperly referenced the outside sources and materials in your assignment.

10.UNIVERSITY STATEMENTS**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 in-course requirements due to illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing with name, ID#, and email contact. [See the undergraduate calendar for information on regulations and procedures for Academic Consideration.](#)

Drop date:

Courses that are one semester long must be dropped by the end of the fortieth class day; two-semester courses must be dropped by the last day of the add period in the second semester. The regulations and procedures for [Dropping Courses](#) are available in 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.

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 book their exams at least 7 days in advance, and not later than the 40th Class Day.

More information: www.uoguelph.ca/sas

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.](#)

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.

Resources:

The [Academic Calendars](#) are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.