

# College of Social and Applied Human Sciences

DEPARTMENT OF FAMILY RELATIONS AND APPLIED NUTRITION

# NUTR\*4010 Course Name COURSE OUTLINE – FALL 2022

## **1. CALENDAR DESCRIPTION**

This course examines the principles and methods used in nutritional assessment of individuals and populations in health and disease states. Dietary, anthropometric and biochemical techniques will be primary components. Nutritional screening, advanced techniques for body composition assessment, physical exam and clinical indicators will also be addressed. Significant independent learning will be required.

Credit Weight:	0.5 credits
Course Hours:	3-0 (36 lecture; 0 lab/seminar)
Pre-Requisite(s):	14.50 credits including NUTR*2050, NUTR*3210
Co-Requisites(s):	None
Restriction(s):	Registration in the B.A.Sc. AHN major

## 2. COURSE DESCRIPTION

This course examines the principles and methods used in nutritional assessment in clinical, public health and research settings. Dietary, anthropometric clinical and biochemical techniques will be the primary components. We will cover everything from brief nutritional screening techniques to rigorous, advanced techniques for collecting the best quality data. This course will give students the tools they need to plan clinical or research nutritional assessments and to interpret the scientific literature for incorporation into an evidence-based dietetic practice.

## 3. TIMETABLE

Lecture:	Tuesdays and Thursdays, 10:00 – 11:20 AM
Location:	TBD
Final Exam:	Wednesday, December 14, 2022, 8:30-10:30 AN

## 4. INSTRUCTIONAL SUPPORT

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

Office Hours: By appointment

Teaching Assistant: Jana Daher Email: jdaher@uoguelph.ca Office: online Office Hours: by appointment

### 5. LEARNING RESOURCES

Required Resource(s): None

#### Recommended Resource(s):

Gibson, R.S. (2005). Principles of nutritional assessment, 2nd Ed. New York: Oxford University Press.

Available on reserve in McLaughlin library.

This text is meant to be used as a background resource. We will be drawing upon additional resources for more current Canadian content. Please see the reading list posted on CourseLink for additional recommended readings. Links to all recommended journal articles and websites will be posted on CourseLink.

## 6. LEARNING OUTCOMES

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

- 1. Design comprehensive nutritional assessment plans (including dietary intake, anthropometric measurements, biochemical and medical tests, physical findings and client personal and medical history) for different situations, particularly by completing an assessment plan for a clinical case study.
- **2.** Analyze and interpret nutritional assessment data of individuals and groups by manipulating class-generated data.
- **3.** Describe how different methods of nutritional assessment work by describing how methods are affected by human biology, biochemistry, assessment technology, bias and measurement error.
- **4.** Describe how and why different methods of nutritional assessment are used in clinical and research situations by describing their strengths and weaknesses.

## 7. TEACHING AND LEARNING ACTIVITIES

Week	Topics	Assigned Readings &	Notes &
		Guest Speakers	Due Dates
1	Course Overview		Sept. 8
2	Dietary Assessment	Methods of Measuring Intake	Sept. 13
		Methods of Measuring Intake – continued	Sept. 15
3		Using Food and Nutrient Databases	Sept. 20
		Accuracy, Precision and Validity of Dietary Assessment	Sept. 22
4		Introduction to the Dietary Reference Intakes (DRIs)	Sept. 27
		Assessing the Intakes of Individuals using the DRIs	Sept. 29
5		Assessing the Intakes of Groups using the DRIs	Oct. 4
	Anthropometric	Pediatric Anthropometric	Oct. 6
	Assessment	Assessment	
6	NO CLASS	FALL STUDY BREAK DAY	Oct. 11
	Anthropometric Assessment	Adult Anthropometric Assessment	Oct. 13
7		Measuring Body Composition	Oct. 18
		Review session	
	Midterm Exam (30%)	Covers materials from Sept. 8 – Oct. 18 (inclusive)	Oct. 20
8	Skill Building	Assignment 2 Skill Building +	Oct. 25
		Reading and Evaluating Research	
		Methods Papers	
	Clinical Assessment	Screening in Clinical Assessment	Oct. 27
		Dietary Assessment Assignment	
		Due (15%)	
9		Medical History and Physical	Nov. 1
		Exams in Clinical Assessment	

Week	Topics	Assigned Readings &	Notes &
		Guest Speakers	Due Dates
		Energy Expenditure and Energy	Nov. 3
		Requirements in Clinical Practice	
		and Research	
		Outline and Key Abstracts Due	
		(5%)	
10		Assessment of Protein-Energy	Nov. 8
		Malnutrition	
	Biochemical Assessment	Introduction to Biochemical	Nov. 10
		Assessment & Protein Status	
11		Introduction to Biochemical	Nov. 15
		Assessment & Protein Status –	
		continued	
		Biochemical Assessment for	Nov. 17
		Anemia	
12		Nutrients of Concern in the	Nov. 22
		Developing World	
	Review session	Wrap up and review session	Nov. 24
13		Full Nutrition Assessment Plan	Dec. 1
		Assignment Due (20%)	
	Final Exam (30%)	Covers materials from Oct. 27 –	December 14, 2022,
		Nov. 22 (inclusive)	8:30-10:30 AM

*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	LOs Addressed	Due Date	% of Final
Midterm Exam – multiple choice and short		Thursday, Oct. 20	30%
answer questions			
Covers dietary and anthropometric	1, 2, 3, 4		
assessment			
(content from Sept. 8 – Oct. 18 inclusive)			
Assignment 1 - Dietary Assessment	2	Thursday, Oct. 27	15%

Assessment	LOs Addressed	Due Date	% of Final
Assessment of individual and group data			
using the Dietary Reference Intakes			
Assignment 2 - Nutritional Assessment			
Plan	1 2 /		
Plan a nutritional assessment for a clinical	1, 3, 4		
scenario			
Outline and Key Abstracts		Thursday, Nov. 3	5%
Final Nutrition Assessment Plan		Thursday, Dec. 1	20%
Final Exam – multiple choice and short		Wednesday, Dec.	30%
answer questions	1 7 2 1	14	
Covers clinical and biochemical assessment	1, 2, 5, 4 t		
(content from Oct. 27 – Nov. 22 inclusive)			
		Total:	100%

## 9. COURSE STATEMENTS

#### Land Acknowledgement:

We acknowledge that the University of Guelph resides on the ancestral lands of the Attawandaron people and the treaty lands and territory of the Mississaugas of the Credit. We recognize the significance of the Dish with One Spoon Covenant to this land and offer our respect to our Anishinaabe, Haudenosaunee and Métis neighbours as we strive to strengthen our relationships with them. Acknowledging them reminds us of our important connection to this land where we learn and work.

#### **Course Website:**

There is a course website at <u>http://courselink.uoguelph.ca</u>. 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:

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. If you are going to hand an assignment in late, you must contact your course instructor to inform them when you will be submitting your assignment.

#### **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. <u>Grades</u> will be based on the Grading Procedures outlined in the Undergraduate Calendar.

#### Turnitin Software:

In this course, your instructor will be using Turnitin, integrated with the CourseLink Dropbox tool, to detect possible plagiarism, unauthorized collaboration or copying as part of the ongoing efforts to maintain academic integrity at the University of Guelph.

All submitted assignments will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site.

A major benefit of using Turnitin is that students will be able to educate and empower themselves in preventing academic misconduct. In this course, you may screen your own 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 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 <u>Academic Consideration</u>.

#### Drop date:

Courses that are one semester long must be dropped by the end of the last day of classes; twosemester courses must be dropped by the last day of classes in the second semester. The regulations and procedures for <u>Dropping Courses</u> 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 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.

More information: <u>www.uoguelph.ca/sas</u>

#### 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 <u>Academic Misconduct Policy</u> is outlined 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 <u>Academic Calendars</u> are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

#### **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.

#### 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).

#### **COVID-19 Safety Protocols:**

For information on current safety protocols, follow these links:

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

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

#### Appendix:

For those students enrolled in the Area of Emphasis in Dietetics: The Integrated Competencies for Dietetic Education and Practice (2013; <u>http://www.pdep.ca/</u>):

Foundational	Knowledge Spec	ifications (FKS	) that are met b	v this course:
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Foundational Knowledge Specification	Complexity Level (1, 2, 3)
1. Anatomy and Physiology	
1a. Structure of the human body at the macro and cellular	2
level	2
1b. Role, function and regulation of the integumentary,	
musculo-skeletal, nervous, endocrine, cardiorespiratory,	

urinary, lymphatic and digestive systems in health and	2
human disease	
1c. Homeostasis including fluid-electrolyte and acid- base	
balance	
2. Biochemistry	
2a. Foundations of chemistry and biochemistry	1
2b. Major metabolic pathways	2
2d. Mechanisms of metabolic regulation	2
3. Communication	
3f. Medical and dietetics-related terminology	1
8. Nutrition Across the Lifespan	
8a. Ingestion, digestion, absorption, metabolism and	2
excretion of nutrients	1
8b. Biochemical utilization of nutrients and energy	3
8c. Nutrient and energy requirements	1
8d. Physical activity and energy balance	3
8e. Nutrition recommendations and guidelines	2
8f. Effect of deficiencies and toxicities of nutrients	2
8g. Food sources of nutrients and dietary supplements	2
8h. Role of nutrients and other food composition in health	1
8i. Dietary practices	
12. Nutrition Assessment	
12a. Food and nutrient intake of individuals and	3
populations	3
12c. Anthropometric data collection and interpretation	3
12d. Biochemical parameter interpretation	3
12e. Clinical data collection and interpretation	2
12f. Surveillance and monitoring data collection and	
interpretation	
18. Research and Evaluation	
18e. Literature search strategies	3
18f. Systematic review and critical appraisal of literature	2
18g. Use of technology to seek and manage information	3

## Performance Indicators (PI) that are met by this course:

Performance Indicator	How Met in NUTR*4010 Curriculum
Professional Practice	
1.06 Use a systemic approach to decision	
making	

1.06c. Demonstrate knowledge of	Final assignment in which students are asked
approaches to obtain and interpret evidence	to choose a nutritional assessment plan and
to inform decision making	how results of this plan will inform decision-
1.06d. Demonstrate knowledge of contextual	making in the clinical context
factors that may influence decision making	
1.06e. Obtain and interpret evidence	
1.09 Use technologies to support practice	
1.09e. Demonstrate knowledge of	Students are tested on body composition
technological applications in common	assessment methods in the midterm exam
practice settings	
1.11Assess and enhance approaches to	
dietetic practice	
1.11e. Seek new knowledge that may support	Second assignment requires students to have
or enhance practice activities	a significant body of literature to support
	their assessment plan for the clinical context.
3.Nutrition Care	
3.01 Assess nutrition-related risks and needs	
3.01a. Demonstrate knowledge of principles	This is imbedded throughout the course and
for selection and use of common nutrition	tested in the midterm and final exams; also
risk screening strategies.	part of the second assignment

3.01c. Demonstrate knowledge of ways to	This is imbedded throughout the course and
identify relevant data to perform a nutrition	tested in the midterm and final exams; also
assessment.	part of the second assignment
3.01g. Demonstrate knowledge of principles	Midterm exam
for obtaining and interpreting a medical	
history.	
3.01j. Demonstrate knowledge of ways to	In midterm and final exam and in the second
obtain and interpret demographic, psycho-	assignment
social and health behaviour history.	
3.01k. Demonstrate knowledge of principles	In midterm and final exam and in the second
for selection of relevant demographic,	assignment
psycho-social and health behaviour data.	
3.01m. Demonstrate knowledge of principles	
for obtaining and interpreting food and	
nutrient intake data.	Imbedded throughout the course; tested in
	midterm exam and in the first assignment,
3.010. Demonstrate knowledge of principles	which involves assessing nutrient intake of
to identify food and nutrition related learning	individuals and groups
needs of clients.	Imbedded throughout the course; tested in
	the midterm and final exams; also imbedded
	in first and second assignments

3.01q. Demonstrate knowledge of principles	Imbedded throughout the course in all
for obtaining and interpreting	learning activities
anthropometric data.	
3.01s. Demonstrate knowledge of ways to	Tested in final exam and part of second
obtain and interpret biochemical and medical	assignment (using evidence to select
test / procedure data.	assessment methods for a clinical case
3.01t. Demonstrate knowledge of principles	Imbedded throughout the course in all
to identify relevant biochemical and medical	learning activities
test / procedure data.	
3.01v. Demonstrate knowledge of ways to	Midterm exam
obtain and interpret information from	
mealtime / feeding observations.	
3.01x. Identify signs and symptoms of	Final exam
nutrient deficiencies or excesses.	
3.01y. Demonstrate knowledge of ways to	Final exam
obtain and interpret nutrition-focused	
physical observation data.	
3.01bb. Demonstrate knowledge of principles	Final exam
for swallowing assessment.	
3.01dd. Demonstrate knowledge of selection	Midterm exam
and use of methods used to determine	

energy, protein, fluid, macronutrient,	
micronutrient, electrolyte and trace element	
requirements.	
4.Population and Public Health	
4. Assess food and nutrition related issues of	
groups, communities and populations.	
4.01a. Demonstrate knowledge of types and	Midterm; and nutritional assessment
sources of information to assess food and	assignment and second assignment
nutrition-related issues of groups,	
communities and populations.	
4.01e. Demonstrate knowledge of sources of	Midterm exam
and methods to obtain food and nutrition	
surveillance, monitoring and intake data.	