



## COLLEGE of SOCIAL AND APPLIED HUMAN SCIENCES

DEPARTMENT OF FAMILY RELATIONS  
AND APPLIED NUTRITION

### **NUTR\*4010 Nutritional Assessment** **COURSE OUTLINE – FALL 2021**

#### **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.

<b>Credit Weight:</b>	0.5 credits
<b>Course Hours:</b>	3-0 (24 lecture; 0 lab/seminar)
<b>Pre-Requisite(s):</b>	14.50 credits including NUTR*2050, NUTR*3210
<b>Co-Requisites(s):</b>	None
<b>Restriction(s):</b>	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**

<b>Lecture:</b>	Tuesdays and Thursdays, 10:00 – 11:20 AM
<b>Location:</b>	Online
<b>Final Exam:</b>	8 December 2021: 8:30 AM – 10:30 AM

#### **4. INSTRUCTIONAL SUPPORT**

<b>Course Instructor:</b>	Dalia El Khoury, RD PhD
<b>Email:</b>	delkhour@uoguelph.ca
<b>Telephone:</b>	519-824-4120 ext. 56326
<b>Office:</b>	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 & Guest Speakers	Notes & Due Dates
1	Course Overview		Sept. 9
2	Dietary Assessment	Methods of Measuring Intake	Sept. 14

Week	Topics	Assigned Readings & Guest Speakers	Notes & Due Dates
		Methods of Measuring Intake – continued	Sept. 16
<b>3</b>		Using Food and Nutrient Databases	Sept. 21
		Accuracy, Precision and Validity of Dietary Assessment	Sept. 23
<b>4</b>		Introduction to the Dietary Reference Intakes (DRIs)	Sept. 28
		Assessing the Intakes of Individuals using the DRIs	Sept. 30
<b>5</b>		Assessing the Intakes of Groups using the DRIs	Oct. 5
	Anthropometric Assessment	Pediatric Anthropometric Assessment	Oct. 7
<b>6</b>	<b>NO CLASS</b>	<b>FALL STUDY BREAK DAY</b>	<b>Oct. 12</b>
	Anthropometric Assessment	Adult Anthropometric Assessment	Oct. 14
<b>7</b>		Measuring Body Composition  <b>Dietary Assessment Assignment Due (15%)</b>	Oct. 19
	Review session	Review session	Oct. 21
<b>8</b>	<b>Midterm Exam (30%)</b>	<b>Covers materials from Sept. 9 – Oct. 19 (inclusive)</b>	<b>Oct. 26</b>
	Skill Building	Assignment 2 Skill Building + Reading and Evaluating Research Methods Papers	Oct. 28
<b>9</b>	Clinical Assessment	Screening in Clinical Assessment	Nov. 2
		Medical History and Physical Exams in Clinical Assessment	Nov. 4

Week	Topics	Assigned Readings & Guest Speakers	Notes & Due Dates
10		Energy Expenditure and Energy Requirements in Clinical Practice and Research  <b>Outline and Key Abstracts Due (5%)</b>	Nov. 9
		Assessment of Protein-Energy Malnutrition	Nov. 11
11	Biochemical Assessment	Introduction to Biochemical Assessment & Protein Status	Nov. 16
		Introduction to Biochemical Assessment & Protein Status – continued	Nov. 18
12		Biochemical Assessment for Anemia	Nov. 23
		Nutrients of Concern in the Developing World	Nov. 25
13	Review session	Wrap up and review session  <b>Full Nutrition Assessment Plan Assignment Due (20%)</b>	Nov. 30
	<b>Final Exam (30%)</b>	<b>Covers materials from Nov. 2 – Nov. 25 (inclusive)</b>	<b>Dec. 8, 2021 8:30-10:30 AM</b>

**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
<b>Assignment 1 - Dietary Assessment</b> Assessment of individual and group data using the Dietary Reference Intakes	Tuesday, Oct. 19	15%
<b>Midterm Exam – multiple choice and short answer questions</b> Covers dietary and anthropometric assessment (content from Sept. 9 – Oct. 19 inclusive)	Tuesday, Oct. 26	30%

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**Assignment 2 - Nutritional Assessment Plan**

Plan a nutritional assessment for a clinical scenario

<b>Outline and Key Abstracts</b>	Tuesday, Nov. 9	5%
<b>Final Nutrition Assessment Plan</b>	Tuesday, Nov. 30	20%
<b>Final Exam – multiple choice and short answer questions</b>	Wednesday, Dec. 8	30%
Covers clinical and biochemical assessment (content from Nov. 2 – Nov. 25 inclusive)	8:30-10:30 AM	
<b>Total:</b>		<b>100%</b>

## 9. COURSE STATEMENTS

### 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:

Late assignments will be accepted up to 5 days following the due date and will receive a penalty of 5% 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. [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. For Assignments 1 and 2, you are required to screen your own written assignment 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.

**COVID-19 Disclaimer:**

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the COVID-19 website [<https://news.uoguelph.ca/2019-novel-coronavirus-information/>] and circulated by email.

## **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](http://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.

**Appendix: To be included in the NUTR\*4010 Course Outline in F21**

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

Foundational Knowledge Specifications (FKS) and Performance Indicators (PI) that are met by NUTR\*4010:

<b>Foundational Knowledge Specification</b>	<b>Complexity Level (1, 2, 3)</b>
<b>1. Anatomy and Physiology</b>	
1a. Structure of the human body at the macro and cellular level	2
1b. Role, function and regulation of the integumentary, musculo-skeletal, nervous, endocrine, cardiorespiratory, urinary, lymphatic and digestive systems in health and human disease	2
1c. Homeostasis including fluid-electrolyte and acid- base balance	2
<b>2. Biochemistry</b>	
2a. Foundations of chemistry and biochemistry	1
2b. Major metabolic pathways	2
2d. Mechanisms of metabolic regulation	2
<b>3. Communication</b>	
3f. Medical and dietetics-related terminology	1
<b>8. Nutrition Across the Lifespan</b>	
8a. Ingestion, digestion, absorption, metabolism and excretion of nutrients	2
8b. Biochemical utilization of nutrients and energy	1
8c. Nutrient and energy requirements	3
8d. Physical activity and energy balance	1
8e. Nutrition recommendations and guidelines	3
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	2
8i. Dietary practices	1
<b>12. Nutrition Assessment</b>	
12a. Food and nutrient intake of individuals and populations	3
12c. Anthropometric data collection and interpretation	3
12d. Biochemical parameter interpretation	3
12e. Clinical data collection and interpretation	3
12f. Surveillance and monitoring data collection and interpretation	2
<b>18. Research and Evaluation</b>	
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 Indicator	How Met in NUTR*4010 Curriculum
<i>Professional Practice</i>	
<p><i>1.06 Use a systemic approach to decision making</i></p> <p>1.06c. Demonstrate knowledge of approaches to obtain and interpret evidence to inform decision making</p> <p>1.06d. Demonstrate knowledge of contextual factors that may influence decision making</p> <p>1.06e. Obtain and interpret evidence</p>	<p>Final assignment in which students are asked to choose a nutritional assessment plan and how results of this plan will inform decision-making in the clinical context</p>
<p><i>1.09 Use technologies to support practice</i></p> <p>1.09e. Demonstrate knowledge of technological applications in common practice settings</p>	<p>Students are tested on body composition assessment methods in the midterm exam</p>
<p><i>1.11 Assess and enhance approaches to dietetic practice</i></p> <p>1.11e. Seek new knowledge that may support or enhance practice activities</p>	<p>Second assignment requires students to have a significant body of literature to support their assessment plan for the clinical context.</p>
<i>3. Nutrition Care</i>	
<p><i>3.01 Assess nutrition-related risks and needs</i></p> <p>3.01a. Demonstrate knowledge of principles for selection and use of common nutrition risk screening strategies.</p> <p>3.01c. Demonstrate knowledge of ways to identify relevant data to perform a nutrition assessment.</p> <p>3.01g. Demonstrate knowledge of principles for obtaining and interpreting a medical history.</p> <p>3.01j. Demonstrate knowledge of ways to obtain and interpret demographic, psycho-social and health behaviour history.</p> <p>3.01k. Demonstrate knowledge of principles for selection of relevant demographic, psycho-social and health behaviour data.</p>	<p>This is imbedded throughout the course and tested in the midterm and final exams; also part of the second assignment</p> <p>This is imbedded throughout the course and tested in the midterm and final exams; also part of the second assignment</p> <p>Midterm exam</p> <p>In midterm and final exam and in the second assignment</p> <p>In midterm and final exam and in the second assignment</p>

<p>3.01m. Demonstrate knowledge of principles for obtaining and interpreting food and nutrient intake data.</p> <p>3.01o. Demonstrate knowledge of principles to identify food and nutrition related learning needs of clients.</p> <p>3.01q. Demonstrate knowledge of principles for obtaining and interpreting anthropometric data.</p> <p>3.01s. Demonstrate knowledge of ways to obtain and interpret biochemical and medical test / procedure data.</p> <p>3.01t. Demonstrate knowledge of principles to identify relevant biochemical and medical test / procedure data.</p> <p>3.01v. Demonstrate knowledge of ways to obtain and interpret information from mealtime / feeding observations.</p> <p>3.01x. Identify signs and symptoms of nutrient deficiencies or excesses.</p> <p>3.01y. Demonstrate knowledge of ways to obtain and interpret nutrition-focused physical observation data.</p> <p>3.01bb. Demonstrate knowledge of principles for swallowing assessment.</p> <p>3.01dd. Demonstrate knowledge of selection and use of methods used to determine energy, protein, fluid, macronutrient, micronutrient, electrolyte and trace element requirements.</p>	<p>Imbedded throughout the course; tested in midterm exam and in the first assignment, which involves assessing nutrient intake of individuals and groups</p> <p>Imbedded throughout the course; tested in the midterm and final exams; also imbedded in first and second assignments</p> <p>Imbedded throughout the course in all learning activities</p> <p>Tested in final exam and part of second assignment (using evidence to select assessment methods for a clinical case)</p> <p>Imbedded throughout the course in all learning activities</p> <p>Midterm exam</p> <p>Final exam</p> <p>Final exam</p> <p>Final exam</p> <p>Midterm exam</p>
<p><b>4. Population and Public Health</b></p>	
<p>4. <i>Assess food and nutrition related issues of groups, communities and populations.</i></p> <p>4.01a. Demonstrate knowledge of types and sources of information to assess food and nutrition-related issues of groups, communities and populations.</p> <p>4.01e. Demonstrate knowledge of sources of and methods to obtain food and nutrition surveillance, monitoring and intake data.</p>	<p>Midterm; and nutritional assessment assignment and second assignment</p> <p>Midterm exam</p>