



**NUTR*4120: Applied Clinical Skills
Winter 2014
COURSE OUTLINE**

Instructor

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Contact Info

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Office Hours

Tuesdays and Thursdays, 1:00-2:15PM

Course Day, Time and Location

Mondays, 2:30-5:20PM, Macdonald Institute (MINS) B17

Course Description

This is a laboratory-based course which will enable you to gain skills in independently completing nutritional assessments and care plans of individuals and groups as you would be expected to do as nutrition professionals. You will comprehensively assess nutritional status (with an emphasis on nutrition-focused physical examination) and apply knowledge of human physiology, pathophysiology, medical terminology and nutritional assessment to diagnose nutritional problems/issues.

Prerequisites

NUTR*4010 (Assessment of Nutritional Status)
NUTR*4040 (Clinical Nutrition II)

Learning Outcomes

1. To demonstrate practical clinical skills used in hospital settings, with an emphasis on nutrition-focused physical examination.
2. To integrate findings from a nutrition-focused physical examination with those from other aspects of a nutritional assessment.
3. To demonstrate proficiency in medical charting, including appropriate use of medical terminology and short forms/abbreviations.

Evaluation

Learning activity	Weighting	Date Due
Medical charting assignment	5%	Jan 13
Anthropometry and BIA lab report	20%	Feb 10
Quizzes (7 @ 3.33% each; best 6 of 7 counted)	20%	Throughout
NFPE practical exam (in teams of three)	20%	Mar 24 & 31
Nutritional assessment integration assignment (done individually)	20%	Apr 3
Participation	15%	Throughout
Total	100%	

Resource – Strongly Recommended

NUTR*4120 course pack, available at campus bookstore.

Resource - Recommended

Jarvis, C. Physical Examination & Health Assessment, 2nd Canadian Edition. 2014. Saunders Elsevier. Pocket Companion. Available at campus bookstore.

Policies

When You Are Unable to Meet a Course Requirement

When you find yourself unable to meet a 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 requirement, but otherwise, just as soon as possible after the due date, and **certainly not longer than one week later**. Appropriate written documentation of your inability to meet the course requirement is required. Otherwise, late assignments will incur a 10% (out of 100) per day (including weekend days) penalty.

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. Rules pertaining to academic misconduct can be found in the 2013-2014 Undergraduate Calendar and on the following website:

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

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.

CourseLink

You will find each unit of this course pack uploaded under the “Content” tab. There you will also find two exemplars of the Integration Assignment from W13. Other than this, we will use CourseLink mainly for the Grades feature.

My Responsibilities

I will guide you as skillfully as possible through the practical application of various clinical skills. I will try to promote a positive, respectful and professional student-centered learning environment that will progressively challenge you to develop your clinical skills in a variety of situations. I will continue to try my best to teach you to think like a clinician.

Your Responsibilities

- This is a hands-on class. It is not a spectator sport. You are therefore expected to come to classes and labs prepared to actively participate.
 - Professionalism. There are sensitive components to a physical examination. Everyone will have a different comfort level with this process, as patient and also as clinician. No giggling, eye-widening, pointing, quizzical looks, making fun of anyone for any reason, inappropriate comments, etc., while conducting any aspect of any physical exam on anyone. This applies to performing assessments on your NUTR*4120 classmates, and having assessments performed on you.
 - Confidentiality. As is expected when working in a clinical setting (i.e., hospital), you are expected to maintain strict confidentiality about your “patients” (i.e., classmates). It is unacceptable to tell anyone anything of an intimate nature about any of your classmates. (e.g., “I measured Susie’s triceps skinfold thickness in lab today. Wow, is she ever skinny.”).
- I expect 100% confidentiality 100% of the time. NO PHOTOGRAPHY.**

- **Hygiene.** Wash your hands thoroughly with hot soapy water before conducting a physical examination. Clean the ear pieces of a stethoscope with an alcohol swab before inserting into your ears. This is for your own protection. No perfume or cologne. The lab, like many hospitals, is a scent-free zone.

NOTE

Selected units of this course involve nutrition-focused physical examination, including anthropometric assessment; dysphagia and intraoral assessment; respiratory assessment; and abdominal assessment. These units require physical contact between you and your classmates, including palpating the arm, hip, abdomen, posterior chest, facial cheeks, and auscultating (using a stethoscope to listen to) the neck, posterior chest and abdomen.

IF YOU ARE NOT COMFORTABLE HAVING ANY OF THE ABOVE BODY PARTS TOUCHED, OR TOUCHING THESE BODY PARTS ON ANOTHER PERSON, THIS COURSE IS NOT FOR YOU.

Schedule

Week	Date	Topic
1	Jan 6	<ul style="list-style-type: none"> • Course introduction and overview • Medical charting and terminology
2	Jan 13	<ul style="list-style-type: none"> • Medical charting assignment due • Medical charting and terminology quiz • Subjective Global Assessment (SGA) • Introduction to nutrition-focused physical examination (NFPE)
3	Jan 20	<ul style="list-style-type: none"> • Quiz on SGA and NFPE • Review of anthropometry and BIA; dress comfortably and bring a calculator • Anthropometry and BIA lab
4	Jan 27	<ul style="list-style-type: none"> • Anthropometry and BIA lab. (If you did the lab last week, you get the day off.)
5	Feb 3	<ul style="list-style-type: none"> • Quiz on anthropometry, BIA • Skin assessment • Swallowing anatomy
6	Feb 10	<ul style="list-style-type: none"> • Anthropometry and BIA lab report due • Quiz on skin assessment • Dysphagia and intraoral assessment
~ READING WEEK ~		
7	Feb 24	<ul style="list-style-type: none"> • Quiz on dysphagia and intraoral assessment • Respiratory assessment
8	Mar 3	<ul style="list-style-type: none"> • Quiz on respiratory assessment • Abdominal assessment
9	Mar 10	<ul style="list-style-type: none"> • Quiz on abdominal assessment • Patient interaction and communication
10	Mar 17	<ul style="list-style-type: none"> • Integrating dietary, biochemical, anthropometric, and clinical/physical assessments • Form teams of three; clinical conditions and NFPE date and time assigned
11	Mar 24	NFPE practical exam (meet in lab at your team's assigned time)
12	Mar 31	NFPE practical exam (meet in lab at your team's assigned time)
	Apr 3	Hard copy of Integration Assignment due in office hour (1:00-2:15PM)

Assignments

Assignments (medical charting; anthropometry and BIA lab report; NFPE practical exam and integration assignment) are described on the following pages of this Course Outline.

Late assignments will incur a 10% (out of 100) per day (including weekend days) penalty, unless accompanied by a medical note.

Quizzes (20% of final grade, throughout semester)

- There are a total of 7 quizzes. Each is worth 3.33%. Your lowest quiz will be dropped from your final grade.
- If you are absent from a quiz, your total quiz grade will be determined by the 6 other quizzes (that is, the quiz you miss will be considered your lowest).

Participation (15% of final grade, throughout semester)

This is a small class. Everyone's participation in class and labs is needed and appreciated to make the course a success. The participation grade is based on the frequency and quality of your oral participation in class (that which is considered "traditional" participation in a university course), as well as your active, professional and respectful participation in lab. The latter includes performing nutrition-based physical exams on your classmates, and having nutrition-based physical exams performed on you by your classmates. Any inappropriate or unprofessional behaviour (i.e., giggling, teasing a classmate, etc.) in the lab, and any breaches in confidentiality about physical findings of any your classmates, will be reflected in your participation grade.

If you are absent from a class or lab, I would appreciate knowing why. You will incur a 1 mark penalty out of 15 for each unexcused absence.

Please – just like at the movies – turn your cell phones off in class and in lab. No texting. No Facebooking. No emailing. **No photography.** Thanks.

Medical Charting Assignment (5% of final grade, due Jan 13)

Adapted from: Giroux I. Applications and Case Studies in Clinical Nutrition. Lippincott, Williams & Wilkins. Baltimore MD. 2008. Chp 7.

Instructions

On a piece of lined binder paper, write a hand-written note (max 1 pg) for the Nutrition Notes section of the medical chart, based on the following scenario. Your note should follow the SOAP format and the General Guidelines for Medical Charting (see Unit 1 of this course pack). Write legibly!

Scenario

Mrs. M.C. is a 74 year old woman who has been residing at the Long Point Long-Term Care facility for the last 2 months, after sustaining a severe cerebrovascular accident 4 months ago. This morning, she was taken to the emergency room of St. Paul's Hospital, after regurgitating formula and pulling out her nasogastric tube.

During the past 4 months, Mrs. M.C. has been fed exclusively by enteral nutrition because of severe dysphagia, which resulted from the cerebrovascular accident. She tolerated the feeds well, but cannot tolerate any oral fluids or food intake. Other consequences of the cerebrovascular accident are aphasia, limited understanding of her environment, and reduced overall mobility.

Mrs. M.C. started to experience fever, agitation, and mild distress in the days before her arrival at St. Paul's Hospital. The Long Point physician who examined her observed that she had a congested chest, shortness of breath, partial airway obstruction and mucopurulent secretions, accumulation of fluids in the sacral area, and nasolabial irritation. As a result of the physician's assessment, Mrs. M.C. was transferred to St. Paul's today.

Since admission this morning, Mrs. M.C. has received antibiotics, Lasix, and intravenous fluids (D₅/0.45 saline with 20 KCl at 125 mL per hour). Serum albumin, determined from a blood sample on admission, is 35 g/L. She has lost 4 lbs in the past two weeks, and now weighs 121 lbs. Other than the recent regurgitation, there have been no GI issues with the NG feeds.

The physician has determined that Mrs. M.C. requires a PEG tube. She is scheduled for surgery – PEG tube insertion – the day after tomorrow. Once inserted, the IV fluids will be discontinued.

You meet with Mrs. M.C. and her son. While speaking with them, you observe that her cheeks are slightly sunken. The skin on the backs of her arms is a little loose. When you ask her son whether he knows how tall his mom is, and how much she usually weighed before the stroke, "I think she's around 5'5" or so. She and my sister always weighed around the same – 130 lbs." You determine that Mrs. M.C.'s Subjective Global Assessment puts her in category B.

You decide that PEG tube feeds, with a standard polymeric formula, will be started at 40 mL/hour for the first 12 hours post-surgery. If Mrs. M.C. tolerates the feeds, you will advance the rate to 55 mL/hour for the next 8 hours, and then finally to the target rate of 70 mL/hour.

Anthropometry and BIA Lab Report (20% of final grade, due Feb 10)

Instructions

- Answer the questions below on 8.5" x 11" paper, 2.5 cm margins, 12 pt font, single-spaced.
- Include your raw anthropometric and BIA data, and all calculations (e.g., converting knee height to stature, percent fat mass from BIA resistance values, etc.), in an Appendix.
- Reference as required.
- Late lab reports will incur a 10% (out of 100) per day (including weekend days) penalty, unless accompanied by a medical note.

Questions

1. How well did your knee height estimate your stature? What might account for any differences? **[5 MARKS]**
2. How do your waist circumference values at natural waist vs. iliac crest compare? What might account for any differences? Which anatomic location better captures chronic disease risk? Why? Draw from the literature in your response. **[10 MARKS]**
3. How do your standing vs. supine TSF compare? What about standing vs. supine MAC? What might account for any differences? **[6 MARKS]**
4. Interpret, and comment on, your standing triceps skinfold thickness and standing arm muscle area measurements, relative to reference data. Explain why you think your results are similar to, or different from, the reference data. **[4 MARKS]**
5. How does your percent fat mass calculated by supine BIA (and using the 2002 equation of Chumlea et al) vs. Tanita BIA compare? What might account for any differences between methods? Which do you think is correct? Why? **[10 MARKS]**
6. Find **TWO (2)** other BIA equations in the literature to calculate your percent fat mass from raw resistance values. How do the results from the three equations (Chumlea et al plus the two additional equations you find) compare? What might account for any differences you observe? Which equation do you think is most appropriate for you, and why? *[Note: provide complete references for the additional BIA equations you find.]* **[10 MARKS]**
7. Would you use BIA in clinical practice? Why or why not? What are some factors you might need to consider when (i) choosing an equation to calculate percent fat mass for a patient, (ii) measuring a patient using BIA (either supine or standing)? **[10 MARKS]**
8. How would you counsel a patient who presented to you with the above results (i.e. BMI, TSF, MAC, WC, BIA) that you collected during this *Skills Practice*? What are your recommendations (e.g., weight gain, weight loss, weight maintenance, etc.)? Why? **[5 MARKS]**

/60 + /5 (references & presentation including spelling, grammar, punctuation, adherence to instructions)

Total **/65**

NFPE Practical Exam (20% of final grade, Mar 24 & 31, in teams)

The purpose of the NFPE practical exam is to be able to demonstrate application of a complete NFPE for a patient diagnosed with a particular condition. You and two classmates (you choose) will be assigned a mock patient with a clinical condition, one week before your scheduled Practical Exam. Possible conditions include:

- Diabetes
- Alzheimer's Disease
- Chronic obstructive pulmonary disease
- Hepatic disease
- Cerebrovascular accident
- Cystic Fibrosis
- Crohn's disease
- Renal disease
- Cancer
- Cardiac disease
- HIV/AIDS
- etc.

How to Prepare

There will be two Practical Exam days – March 24 and March 31. Clinical conditions, and the date and time of your team's NFPE practical exam, will be determined in class on March 17.

In the week(s) leading up to your team's Practical Exam, you and your team will do some research to learn more about the condition, the body systems the condition may affect, and the associated nutritional assessment appropriate for a patient with the condition.

What To Expect for the Practical Exam

The practical exam will take place in the lab (MINS B41). The format is oral/practical. Only your team will be present at the lab during your assigned time. Punctuality is critical. Your team will have 30 minutes to walk me through a NFPE for a patient with the assigned condition.

- Begin with a brief description of your patient to help me contextualize the NFPE.
- Devise and justify a logical order to the various steps of your NFPE. Explain why and how you are doing each step. Be prepared to justify why some NFPE assessments may not be applicable to your particular patient.
- You will have all the necessary tools available including your notes/Pocket Companion, examination gloves, stethoscope, anthropometric equipment, BIA, etc. It is up to you to know why and how this equipment is used.
- You will demonstrate your NFPE skills on your team-mates, and your team-mates will demonstrate their NFPE skills on you. You can decide amongst yourselves ahead of time who will be the clinician and patient for each assessment.
- All team members should be able to speak to all aspects of the NFPE for the patient. Be prepared to field questions about what you are doing and why.

The Practical Exam will be graded using the evaluation on the following page. Team members will be assigned the same grade.

EVALUATION OF NUTRITION-FOCUSED PHYSICAL EXAM (NFPE) PRACTICAL EXAM (20% FINAL GRADE)

Date	
Team members	
Medical condition	

Content and Clinical Skills

Knowledge of Assigned Clinical Condition

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Team demonstrates excellent grasp of condition, including relevant body systems affected. Evidence of strong clinical knowledge, and excellent application of this knowledge. NFPE consistent with patient's diagnosis.										Team demonstrates poor knowledge of condition. Relevant body system not addressed, or body system not likely affect by the condition is discussed. Poor application of knowledge. NFPE not consistent with patient's diagnosis.									

Sequence of NFPE

5	4	3	2	1
Sequence logical, justified.				Sequence does not make sense and/or is weakly justified.

Competence in Conducting NFPE

50				40				30			20			10		1
Team clearly comfortable with, and competent at, conducting an appropriate head-to-toe NFPE as appropriate for assigned clinical condition. Easily able to answer questions about the process. Demonstrates excellent grasp of the various steps of NFPE. NFPE comprehensive. Team justified why some steps of NFPE not applicable to their patient. Strong decision-making skills demonstrated. Excellent use of available equipment.										Team lacks confidence with, and/or competence at, conducting a head-to-toe NFPE. Answers questions poorly. One or more steps of NFPE unclear. NFPE not comprehensive. Team did not justify why some steps of NFPE not applicable to their patient. Poor decision-making skills. Unsure about how to use available equipment.						

“Soft” Skills

Bedside Manner

5	4	3	2	1
Team demonstrates a high degree of professionalism and respect. Hand-washing. Warming of hands prior to touching patient.				Team unprofessional, disrespectful and/or too informal. Hands not washed. Hands not warmed prior to touching patient.

Team Skills

5	4	3	2	1
Team works very well together. Evidence of collaboration and helping each other out. Team members do not interrupt each other. Team clearly prepared.				Team does not appear to work well together. Poor collaboration. Team members interrupt each other. Team appears poorly prepared.

Timing

5	4	3	2	1
All team members arrived on time. Team completed NFPE in time allotted. Team spent an appropriate amount of time on body systems most relevant to condition.				One or more team members arrived late. NFPE too short/too long. Selected body systems treated superficially/too much time spent on one or more body systems.

Overall Presentation (Style and Flow of NFPE)

10	9	8	7	6	5	4	3	2	1
Excellent flow to NFPE. Team comfortable with process. Relaxed.					Poor flow to NFPE. Team clearly uncomfortable. Visibly tense.				

Overall comments:

Team grade	/100
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There are exemplars from W13 posted to CourseLink, under the Content tab!

Nutritional Assessment Integration Assignment (20% of final grade, due Apr 3, done individually)

The purpose of the integration assignment is to relate findings of a nutrition-focused physical exam (NFPE) with those of the other components of a nutritional assessment, including dietary, biochemical and clinical assessments.

This is an individual, not a team, effort.

What To Do

Prepare a report, beginning with a brief description (3 to 4 sentences) describing your patient. Then, relate the findings of your NFPE with those you might expect from other components of a nutritional assessment. That is, describe the NFPE findings and identify and explain dietary, biochemical and/or clinical assessment findings which may correlate with NFPE findings.

Not every NFPE finding will be correlated with a dietary, biochemical *and* clinical assessment finding. Make as any many connections as make sense for your particular patient.

Below are some examples:

- If your NFPE reveals an elevated waist circumference in a cardiac patient, you might expect a dietary assessment to reveal consumption of energy and/or dietary fat in excess of recommendations. You might expect a biochemical assessment to reveal elevated serum triglycerides and insulin resistance.
- A patient who has suffered a CVA (cerebrovascular accident) may demonstrate poor hand grip strength on the affected side. A clinical assessment may reveal some facial drooping or onset of dysphagia. A dietary assessment may suggest insufficient energy intake secondary to the patient's need for a texture-modified diet.
- An adolescent patient with Cystic Fibrosis may inconsistently take her pancreatic enzymes. Your NFPE may reveal recent weight loss and SGA category B. A clinical assessment may reveal steatorrhea. A biochemical assessment may reveal fat-soluble vitamin deficiency.

Subheadings

Use subheadings to help organize your report. Some suggestions:

- Organize by nutritional diagnosis, such as Dehydration, Protein Energy Malnutrition, etc. Under each subheading, describe the NFPE findings and any dietary, biochemical and/or clinical assessment finding(s), to support the diagnosis.

OR

- Organize by NFPE finding, such as Skin Assessment, Respiratory Assessment, etc. Under each subheading, describe the dietary, biochemical and/or clinical assessment finding(s) you think might accompany the NFPE finding.

Format

The report should:

- Be approximately four to six, double-spaced pages, excluding reference list.
- Be size 12 Times New Roman font, 1" margins.
- Be paginated.
- Be stapled in the top left corner.
- Be accompanied by a title page complete with your name and student number.
- Not include an appendix.
- Use first person (i.e., "I", "me") if you wish.
- Use medical terminology and medical short forms/abbreviations as appropriate.

Resources and Referencing

Try, where possible, to include a mix of clinical and assessment resources (e.g., clinical text, assessment text, DC PEN pathway, www.nutritioncaremanual.org (Username: lday@uoguelph.ca, password: uoguelph), information from the literature, etc.). Use any referencing style you wish, just be consistent throughout. The reference list is not included in the page limit.

Submission

Submit a hard copy of your assignment during my office hour on Thurs Apr 3 (1:00-2:15PM, MACS 324). Keep an electronic copy until the original is graded.

Late assignments will incur a 10% (out of 100) per day (including weekend days) penalty, unless accompanied by a medical note.

Your assignment will be evaluated using the rubric on the following page.

EVALUATION OF NUTRITIONAL ASSESSMENT INTEGRATION ASSIGNMENT (20% FINAL GRADE)

Date	
Name	
Medical condition	

Integration of NFPE with dietary, biochemical and clinical assessment findings (as appropriate)

25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Patient description is clear and sufficiently detailed. Highly integrated assessment. Comprehensive. Appropriate level of detail. Clinical knowledge of condition and accompanying treatment (including medications) is evident. Thinking like a clinician.												Patient description is unclear and/or lacks detail. Poorly integrated assessment. Detail lacking or extraneous. Clinical knowledge of condition or accompanying treatment (including medications) is not evident. Not thinking like a clinician.												

Presentation, writing (including use of medical terminology and abbreviations), formatting, organization

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Spelling, grammar, punctuation correct. Correct formatting, as per instructions. Well organized. Good flow. Good use of subheadings. Good use of medical terminology and short forms/abbreviations.										Poor spelling, grammar and/or punctuation. Formatting not consistent with instructions. Poorly organized. Poor flow. No or poor subheadings. No medical terminology and/or short forms/abbreviations.				

References

5	4	3	2	1
Good quality references. Sufficient for a report of this length.			Poor quality references. Too many/not enough for a report of this length.	

Grade	/45
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