

York University
Faculty of Health
School of Kinesiology and Health Science

KAHS 4020 3.0 – Human Nutrition

Winter term – January 4th to April 3rd, 2019

Course director:

Dr. Rolando Ceddia

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Department of Kinesiology and Health Science

Lab/Office address: 225A – Lumbers Building

Office hours:

Thursdays from 11:30 am to 1:30 pm

Course Description:

This course focuses on basic and applied concepts of nutrition and their relevance to human health and disease. It encompasses the study of food composition and the role of various nutrients in the regulation cell, tissue, and organ function, as well as the implications for the maintenance of a healthy organism throughout life span. It starts with the identification of major components of the digestive system and their functions in the process of breaking down food and absorbing nutrients. It includes the study of how carbohydrates, fats, and proteins are digested, absorbed, transported, and metabolized in various tissues and organs of the body. This is followed by the analysis of the role of vitamins and minerals in maintaining physiological function, the impact of deficient intake on health, and their recommended dietary intakes. Major aspects of alcohol metabolism and issues associated with its overconsumption are discussed. It concludes with the study of energy metabolism and weight control focusing on the manipulation of calorie content, nutrient composition of the diet, and exercise.

Learning objectives

The overall objective is to provide the students with a basic and integrative understanding of nutrition and health. The intent is that students acquire enough knowledge of nutrition so they can apply science-oriented diet principles on a day-to-day basis.

Specific objectives are that the students:

1. Identify the main components of the digestive system and understand their respective roles in digestion, absorption, transport and metabolism of nutrients;
2. Use evidence-based concepts of nutrition to choose what foods to consume and make educated dietary choices;
3. Integrate concepts of anatomy, physiology, biochemistry, and metabolism into nutrition to use food to provide the appropriate types and amounts of nutrients required for normal physiological function;
4. Apply the principles of nutrition to maintain normal health and prevent common diseases such as diabetes and cardiovascular disease;
5. Understand the importance of diet and exercise in the maintenance of a healthy body weight throughout life span.

Methodology:

Traditional lecture style combined with real-life examples and discussion of current issues in nutrition. Lectures will be supplemented with specific reading material that is pertinent and relevant to the topics covered in class.

Pre-requisite or Co-requisite:

HH/KINE 2031 3.0 Human Anatomy

HH/KINE 3011 3.0 Human Physiology I

Topics to be covered:

- Nutrition – general aspects and definitions
- Classes of nutrients
- Anatomic overview of the digestive system
- Role of main organs in digestion
- Role of accessory organs in digestion
- Digestion, absorption, and transport of carbohydrates, fats, and proteins
- Glycemic index and glycemic load
- Dietary fiber
- Vitamins (fat- and water-soluble)
- Minerals (major and trace minerals)
- Alcohol
- Energy metabolism, diet, and weight control

Required course material:

- *Course Manual:* Contains all slides used during the lectures and provides the basis for the students to take notes.
- *Course Textbook:* Ceddia, RB. Human Nutrition: Science and Application - 2019. The textbook contains all the material that will be covered during the course, as well as the content that will compose all exams. It provides detailed explanations of all slides used in lectures.

Chronogram of classes:

Winter term – Classes start Friday January 4th, 2019

Classes end Friday April 3rd, 2019

No classes during Reading Week: Feb 16th to 22nd, 2019

Total # of classes = 36

Section M: Mon, Wed, and Fri from 10:30 to 11:30 am

Section N: Mon, Wed, and Fri from 11:30 to 12:30 pm

Location where classes are held: ACW 109

Evaluation:

Type – Multiple choice exams – Only the final exam is cumulative

Midterm # 1 – 25% (Friday, Feb 15th, 2019)

Midterm # 2 – 25% (Friday, March 20th, 2019)

Final Exam 3 – 40% (TBD)

Important:

If, for any reason (medical or other) students do not write a midterm, the weight of the missed exam will be automatically transferred to the final exam. It is strongly recommended that the students avoid as much as possible to miss a midterm. Remember, the final exam is cumulative and could be worth anything from 40% for those who have not missed any of the midterms, or 65% and 90% for those who missed one or both midterms, respectively.

*If, for any reason (medical or other) students do not write the final exam, there will be one deferred exam. To be eligible to take the deferred exam, the student **must present** adequate documentation (Dr.'s note) as to why the final exam was missed.*

*The deferred final exam will take place in May 2019 at a date, time, and location to be determined by KINE secretary's office. The deferred exam will contain questions with the same degree of difficulty as the missed exam. If the deferred exam is missed, a grade of **0 (zero)** will be entered for the mark. Students taking a deferred final exam usually do not obtain good marks. Therefore, students are advised not to miss any of the regularly scheduled exams.*

Important: After each exam, the students will have two weeks to look at the test. After that, the test is no longer available for the student to look at. Also, if you want to dispute a question, be respectful and make sure that you are prepared to make a clear and well supported case to have the mark changed. Otherwise this will only waste time and energy. **Do not** come to ask for marks just because you need an A⁺ to apply for medical school, because this will not be seen favorably. Crying, bringing chocolate, wine, and other gifts **will not** work either.

As part of the evaluation, one written assignment has to be completed:

Assignment – Worth 10% (due date: Monday, Feb 4th, 2019)

Each student will choose **one food item** eaten on a regular basis, describe the amount consumed weekly (from Monday to Sunday), and explain the reason why this food item is nutritionally important. The focus is on the **macronutrient** composition (carbohydrate, fat, and protein) **only** of the food of choice.

*To determine the nutrient composition of the food item selected, the students must refer to the Canadian Nutrient File (CNF). This is a publication of Health Canada containing the standard reference food composition database reporting on the amount of nutrients in foods commonly consumed in Canada.

The CNF is available for free on line at:

www.hc-sc.gc.ca/fn-an/nutrition/fiche-nutri-data/nutrient_value-valeurs_nutritives-tc-tm-eng.php

Click on PDF version – 906 K

Important – The deadline for the submission of the assignment is firm. You can hand in the assignment any day between the beginning of classes and the due date. This means that you have almost two months to write the assignment, so no extensions or exceptions will be granted. In fact, the sooner you complete it the better because this way you do not miss the deadline in case any unforeseen situation occurs the day the assignment is due. A late submission will not be accepted and the student will receive a **0 (zero)** for the assignment. Only hard copies of the assignments will be accepted and collected in class. Alternatively, the students can deliver it to the KINE Administrative Office located in Bethune College room 341. **No electronic submission of the assignment will be accepted.**

Specific guidelines regarding the format of the written assignment:

- The assignment is strictly a **one-page document** including the reference. Additional pages will be discarded.
- 2 cm margins (top, bottom, left and right). **Do not** insert headings because it will displace the margins and 0.5% will be deducted for improper formatting. Make sure that the 2cm margin is correct in the final printed document. **A ruler is used to measure the margins** when the assignment is marked, so measure it yourself prior to handing in the document to make sure that the margins are correct.
- Letter size paper typed single space in black and white.
- Font: Times New Roman size 14.

Specific guidelines regarding the content of the written assignments:

1. Student name, ID number, and section (All at the top of the page centralized).
2. Food of choice (specify when applicable if it is cooked, fried, baked, boiled, raw, etc. Examples: fried chicken wings, milk 3%, whole egg - boiled, whole-grain brown rice cooked, chocolate chip cookie, banana, etc.)
3. Quantity (units, portions, weights) of the specific food ingested per week.
4. Specify the amount in grams per week (g/week) of carbohydrate, fat, and protein obtained from the consumption of the food of choice. Based on the macronutrient content, explain why this particular food item is nutritionally important to be eaten on a regular basis.
5. Be coherent and scientifically correct because these are the items that count the most (7.5%).
6. **Do not** contradict yourself as you write about the food item. Students often say that the food is a great source of protein when the content of this nutrient is very low. This is a typical contradiction. Also, use language that is clear and objective and avoid terminology that is ambiguous (e.g. “decent amounts” of a nutrient).
7. The explanation is not for you to defend the food. Rather, it is to provide a scientific explanation of the importance of the food from a macronutrient perspective.
8. If the food of choice is not rich in all macronutrients, include in your discussion examples of other foods that you also eat to balance with the macronutrients that are missing or present in low amounts in your food of choice. Make sure that your alternatives indeed provide what is missing.
9. The explanation must take a minimum of 20 and a maximum of 30 lines. Points will be deducted from essays that are either shorter or longer than specified. Important, the 20 to 30 lines do not include the identification of the food item (item # 2), quantity ingested

(item # 3), and the breakdown of the fat, carbohydrate and protein contents of the food (item # 4).

10. At the bottom of the page, **write a scientific reference (only one)** that supports your written explanation. Find a reference on Pubmed that supports your written explanation. The reference must follow the same format of the text (Times New Roman 14 size font). The reference does not have to cover everything that you mention in the explanation, but it has to support the main claims. **Do not** print the reference (This means no hard copies of references). The reference **must be a research article**. Books (including the text book and the CNF), websites, opinion articles, and review articles **do not** count as reference. **The reference must be within the one-page document.**

Important – As mentioned above (item # 9), the 20 to 30 lines of the explanation about the nutritional importance **does not** include the identification of the food, its amount ingested, and the breakdown of carbohydrates, fats, and protein of the food item. It has to be coherent, objective, and make sense. The ideas have to be based on scientifically sound principles and articulated using language that can be understood by a lay person. Be precise and avoid ambiguous language (*e.g.* “fair amount”, “good amount”, etc.) when referring to amounts of macronutrients present in the food. Bullet-point format **is not** accepted. It is important to capture the important elements in a concise, objective, and contextualized manner.

Break down of the marking scheme for the assignment:

- Proper formatting – 0.5%
- Clear identification of a food item – 0.5%
- Determination of the amount ingested – 0.5%
- Explanation of the nutritional importance of the food item:
 - Length – 0.5%
 - Coherence and objectivity – 3.5%
 - Scientific correctness – 4.0%
 - Scientific reference to support – 0.5%

IMPORTANT ADDITIONAL INFORMATION FOR STUDENTS

All students are expected to familiarize themselves with the following information:

ACADEMIC HONESTY

York University's Senate Policy on Academic Honesty

“Academic honesty requires that people do not falsely claim credit for the ideas, writing or other intellectual property of others, either by presenting such words as their own or through impersonation. Similarly, academic honesty requires that people do not cheat (attempt to gain an improper advantage in an academic evaluation), nor attempt to alter, suppress, falsify or fabricate any research data or results, official academic record, application or document.”

Suspected breaches of academic honesty will be investigated and charges shall be laid if reasonable and probable grounds exist. A student who is charged with a breach of academic honesty shall be presumed innocent until, based upon clear and compelling evidence, a committee determines the student has violated the academic honesty standards of the university. A finding of academic misconduct will lead to the range of penalties described in the guidelines which accompany this policy. In some cases, the University regulations on non-academic discipline may apply. A lack of familiarity with the Senate Policy and Guidelines on Academic Honesty on the part of a student does not constitute a defense against their application. Some academic offences constitute offences under the Criminal Code of Canada; a student charged under University regulations may also be subject to criminal charges. Charges may also be laid against York University students for matters which arise at other educational institutions.

To obtain further detailed information on Academic Honesty go to:

<http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>

For detailed information regarding Academic Integrity for Students, go to:

<http://www.yorku.ca/academicintegrity/students/index.htm>

STUDENT CODE OF CONDUCT

Students are reminded that they should be polite, courteous and civil during their interactions with the course instructor, TA, and other students. No abuse, aggression, harassment, intimidation, threats or assault will be tolerated, be it verbal or otherwise. This includes direct interaction and/or indirect, for example comments on the Course Forum on Moodle, as well as soliciting or “pushing” the instructor or TA for a higher grade. For the complete Student Code of Conduct and more details, please access the following website:

<http://www.yorku.ca/oscr/studentconduct.html>