

York University
Faculty of Health
School of Kinesiology and Health Science

KAHS 4020 3.0 – Human Nutrition

Winter term – January 6th to April 5th, 2017

Course director:

Dr. Rolando Ceddia

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Department of Kinesiology and Health Science

Lab/Office address: 225A – Lumbers Building

Office hours:

Tuesdays and Thursdays from 11:30 to 12:30

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 in order 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. 2017.

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 6th, 2017

Classes end Wednesday April 5th, 2017

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

No classes during Reading Week: Feb 18th to 24th, 2017

Total # of classes = 36

Location where classes are held: ACW 109 and ACW 206

Evaluation:

Type – Multiple choice exams – None of the regular exams are cumulative

Exam # 1 – 23% (Wed, Jan 25th, 2017)

Exam # 2 – 24% (Fri, Feb 17th, 2017)

Exam # 3 – 24% (Fri, March 17th, 2017)

Exam # 4 – 19% (Last day of class – Wed, April 5th, 2017)

Important:

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

*The deferred exam will cover the material related to the missed exam(s) and have a value proportional to the missed exam(s). It will take place in May 2017 at a date, time, and location to be determined. The deferred exam will contain questions with the same degree of difficulty as the missed exam(s). If the deferred exam is missed, a grade of **0 (zero)** will be entered for the mark. Students taking deferred exams, especially containing cumulative material, 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 going to be seen favorably. Crying, bringing chocolate 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 13th, 2017)

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.

*In order to determine the nutrient composition of the food item selected, the students should 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. A late submission will not be accepted and the student will receive a **0 (zero)** for the assignment. Hard copies of the assignments will be collected in class. Alternatively, the students can deliver it to the Kine Administrative Office located in Bethune College room 341.

Specific guidelines regarding the format of the written assignments:

- The assignment is strictly a **one-page document**. 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.
- 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 (~325 words). Points will be deducted from essays that are either shorter or longer than specified.
10. At the bottom of the page, **write a scientific reference** that supports your written explanation. The reference has to follow the same format of the text (Times New Roman 14 size font). **Do not** print the reference (This means no hard copies of references). Websites and opinion articles **do not** count as reference.

Important – The 20 to 30 lines of the explanation about the nutritional importance of the food item 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. 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 actually 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 defence 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>