Advanced Nutrition 2 - Fall 2018
Health and Nutrition Sciences
Brooklyn College

Course Information

Title: **Advanced Nutrition 2 - HNSC 4212**
Section Number: TR3 Class Number: 56472
Fall 2018 Dates 8/27/2018 - 12/21/2018
Credit hours: 3 credits
Meeting times: Tuesdays and Thursdays 3:40 PM - 4:55 PM
Classroom location: Ingersoll Hall (IH) 3214

Instructor Information

Name: Jorge Caviglia, MD, PhD
Office Location: Ingersoll 4113a
Office Hours: Tuesday 5:00 PM-6:00 PM; Thursday 12:20 PM-1:20 PM (except Thursdays 9/13, 10/11, 11/8 and 12/6 2:15 PM-3:15 PM); or by appointment
Phone number: 718-951-5026
Email address: JorgeM.Caviglia@brooklyn.cuny.edu

Course Description and Learning Objectives

Description

Nutrients involved in the antioxidant defense system and in the anabolism and catabolism of macronutrients and molecules derived from them. Effects of interactions with other nutrients, genetic polymorphisms, and environmental conditions. The course addresses the same principles as HNSC 4211, Advanced Nutrition I, but applies them to a different set of nutrients. (Not open to students who have taken Health and Nutrition Sciences 4210.)

Prerequisites: HNSC 2210 (Human Nutrition), HNSC 3210 (Nutritional Chemistry), and HNSC 3300 (Introduction to Biostatistics for the Health Sciences)

The course contributes to the following ACEND learning competencies:

KRDN 1.1 Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical, evidence-based practice decisions.
KRDN 1.3 Apply critical thinking skills.
KRDN 2.1 Demonstrate effective and professional oral and written communication and documentation.

Course Learning Objectives:

To integrate micronutrient functions with macronutrient metabolism. The biochemical functions of nutritive and non-nutritive components will be examined for biochemical and physiological influence on human health. Upon completion of this course, students will understand:

1. how nutrients are metabolized to fulfill energy requirements.
2. the role of vitamins in macronutrient metabolism, particularly carbohydrates and fats.
3. how antioxidant nutrients function to eliminate reactive species. 4. the role of antioxidant nutrients in how biochemical deficiencies and clinical symptoms may be connected.
5. the digestion, absorption, transport, metabolism and storage of selected micronutrients.
6. nutrient bioavailability and effective dietary concentration, non-nutritive supplements.
7. inter-organ metabolism of nutrients and the impact this has on nutrient requirements.
8. how biochemical deficiencies and clinical symptoms may be connected.
9. current issues in nutrition and be able to participate in oral and written discussion.

Course Materials

Textbook

Gropper SS, Smith JL, and Carr TP. Advanced Nutrition and Human Metabolism. 7th Edition. 2018. ISBN: 9781305627857.
http://brooklyn.textbookx.com/institutional/index.php?action=browse#books/1745063/

The 6th Edition of the required textbook is on reserve at the Brooklyn College Library.

Additional required readings and/or animation will be posted on Blackboard

Assessment

Components of Course Grade:

Alcohol Assignment: 10 points
Other Assignments 15 points
Exam # 1 25 points
Exam # 2 25 points
Final Exam 25 points

The final grade will be based on the following Grading Scale and Letter Grades (not curved)

A+	97-100
A	93-96
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	below60

No revision or resubmission of work will be accepted. No extra credit assignment will be offered.

Exams:

The course includes three (3) exams. Each exam will cover the content of lectures, class discussions, assigned readings, and other resources. Knowledge of the content from prerequisite courses is expected. Exams will be retained by the instructor; students will have 10-15 minutes to review their exams in class and may review them further by appointment. Missed exams, when due to documented extenuating circumstances will result in grade of Incomplete (INC). The instructor may change the grade of INC to another grade after the exam has been taken.

Assignments

Several assignments will be given, which may include discussion questions, worksheets, and reports to promote learning of the course material. Assignments need to be submitted by the due date and using Blackboard to receive a grade. All writing should be original; please do not quote or copy wording from the literature, which is considered plagiarism. References should be included when appropriate.

Introduction Assignment. Due 9/4/2018 - 2 points

Alcohol. The aim of his assignment is to understand the effect of alcohol in nutrition and health. Several sources of information should be used, including a narrated lecture and readings. Students should submit answers to the questions using Blackboard. In addition, all students are required to participate in the discussion in class. This assignment is mandatory for all students. Due 11/14/2018 - 10 points.

Intestinal Microbiota. Due 9/24/2018 – 6 points.

Pellagra. Due 10/8/2018 – 3 points

Lipid transport. Due 10/22/2018 – 3 points

Vitamins Worksheet. Due 10/29/2018 – 3 points

Expectations of Students

Class Attendance

Attendance to class is required. Students who miss a class, should ask their classmates for notes and other information. Please inform the instructor as early as possible of any pre-planned absence. For information on the state law regarding non-attendance because of religious beliefs, please refer to the Undergraduate Bulletin p. 66.

Participation

Participation in class is expected. Participation includes answering instructor's questions, engaging in class discussions, and asking questions.

Communication

Blackboard will contain most information regarding the course, including the syllabus, materials, lectures, assignments, etc. Please check Blackboard regularly for announcements. Ensure that you check the email that you have registered with blackboard regularly.

Students are encouraged to ask questions in class or at office hours.

When emailing, please include in the subject field the course number (e.g. HNSC 4212) followed by a brief description of the subject of the email. Please include your name as signature. All efforts will be made to answer email within 2 business days.

Use of electronic devices

Electronic devices may be used in class only for activities related to the class. Electronic devices should be set to silent mode. Recording of the classes is discouraged; lecture slides will be available through Blackboard.

University's policy on Academic Integrity

The faculty and administration of Brooklyn College support an environment free from cheating and plagiarism. Each student is responsible for being aware of what constitutes cheating and plagiarism and for avoiding both. The complete text of the CUNY Academic Integrity Policy and the Brooklyn College procedure for policy implementation can be found at http://www.brooklyn.cuny.edu/bc/policies. If a faculty member suspects a violation of academic integrity and, upon investigation, confirms that violation, or if the student admits the violation, the faculty member *must* report the violation. Academic dishonesty on an exam or assignment will result in a grade of "0"

Student Bereavement Policies

Students who experience the death of a loved one must contact the Division of Student Affairs, located in 2113 Boylan Hall, if the student wishes to implement either the Standard Bereavement Procedure or the Leave of Absence Bereavement Procedure as detailed in the Student Bereavement Policy, found at http://www.brooklyn.cuny.edu/bc/policies.

Students should carefully and thoroughly read the section entitled "Academic Regulations and Procedures" in the Brooklyn College Undergraduate Bulletin for a complete listing of academic regulations of the College.

Academic Support and Student Success

Center for Student Disability Services

In order to receive disability-related academic accommodations students must first be registered with the Center for Student Disability Services. Students who have a documented disability or suspect they may have a disability are invited to set up an appointment with the Director of the Center for Student Disability Services, Ms. Valerie Stewart-Lovell at (718) 951-5538. If you have already registered with the Center for Student Disability Services, please provide your professor with the course accommodation form and discuss your specific accommodation with him/her.

Course Calendar/Outlines

Exam # 1: Tuesday 10/16/2018
Exam # 2: Tuesday 11/20/2018
Final Exam: Tuesday, December 20 - 3:30–5:30 p.m.
(The schedule is subject to change, please check the Undergraduate Finals Exam List)

Important Dates

Monday, August 27 Weekday classes begin
Sunday, September 2 Last day to add a course
Wednesday, September 5 Conversion Day; Classes follow a Monday Schedule and Last day to file for elective course Pass/Fail
Saturday, September 8 Weekend classes begin
Sunday, September 16 Last day to drop a course without a grade
Tuesday, November 6 Last day to withdraw from course with a W (non-penalty) grade

The full academic calendar, including many other important dates, and the undergraduate final exam "grid" are available on the Office of the Registrar's website.

Tentative Class Schedule

The schedule of classes that follows is tentative. Topics may be added, deleted, or modified to enhance course objectives. Some topics might take more or less than the time allotted.

Date	Description
Tue 8/28/18	Introduction to the course
Thu 8/30/18	Review of macronutrient metabolism
Tue 9/4/18	Introduction to micronutrients
Thu 9/6/18	Assessment of micronutrient status. Suboptimal intake
Tue 9/11/18	(No classes)
Thu 9/13/18	Digestion and absorption/Membrane transport
Tue 9/18/18	(No classes)
Thu 9/20/18	Fiber
Tue 9/25/18	Glycolysis
Thu 9/27/18	Pyruvate dehydrogenase. Vitamin B1
Tue 10/2/18	Tricarboxylic acid cycle and oxidative phosphorylation
Thu 10/4/18	Riboflavin (B2) and niacin (B3)
Tue 10/9/18	Iron
Thu 10/11/18	TBA
Tue 10/16/18	EXAM # 1
Thu 10/18/18	Lipid digestion and absorption
Tue 10/23/18	Lipid transport and lipoproteins
Thu 10/25/18	Beta-oxidation and pantothenic acid
Tue 10/30/18	Fatty acid synthesis and biotin
Thu 11/1/18	Cholesterol and lipoproteins
Tue 11/6/18	Atherosclerosis
Thu 11/8/18	Alcohol metabolism
Tue 11/13/18	Effects of Alcohol on Nutrition and Health
Thu 11/15/18	TBA
Tue 11/20/18	EXAM # 2
Thu 11/22/18	ROS and antioxidants
Tue 11/27/18	Vitamin E
Thu 11/29/18	(College closed)
Tue 12/4/18	Vitamin C
Thu 12/6/18	Selenium
Tue 12/11/18	TBA
Thu 12/13/18	Reading Day - No class meeting
Thu 12/20/18	Final Exam