

**11: 709:401 Advanced Nutrition II: Energy and Micronutrients**  
**TF 10:55 am - 12:15 pm, Ruth Adams Building 001**  
**Spring 2017 Syllabus**

Day/Date	Topic	Professor	Reading
1/17 Tues	Energy/Bioenergetics	Watford	Chapter 21
1/20 Fri	Body Composition	Watford	Chapter 22, 23
1/24 Tues	Energy Expenditure I - Measurement	Watford	Chapter 21, 22
1/27 Fri	Energy Expenditure II - Regulation	Watford	Chapter 21, 22
1/31 Tues	Growth: Under- and Over-Nutrition	Watford	Chapter 22, 23
2/3 Fri	Obesity I	Watford	Chapter 22, 23
2/7 Tues	Obesity II-Food Intake/Case Studies	Watford	Chapter 19
2/10 Fri	Dietary Reference Intake + Gene Express.	Brasaemle	Chapter 3
2/14 Tues	<b>EXAM I – 1/17 - 2/07 material</b>	Watford	
2/17 Fri	Nutrient Regulation of Gene Expression and Vitamin A	Brasaemle	Biochem text + Chapter 30
2/21 Tues	Vitamin A, continued	Brasaemle	Chapter 30
2/24 Fri	Vitamin A, continued + Vitamin D	Brasaemle	Chapter 30, 31
2/28 Tues	Vitamins D, continued + Vitamin K	Brasaemle	Chapter 31, 28
3/3 Fri	Folate, Vitamins B6 and B12	Brasaemle	Chapter 25
3/7 Tues	<b>EXAM II – 2/10 – 2/28 material</b>	Brasaemle	
3/10 Fri	Folate, Vitamins B6 and B12, continued Pantothenate, Biotin, Choline	Brasaemle	Chapter 25, 26
3/11 – 3/19	<b>Spring Break!</b>		
3/21 Tues	Niacin, Riboflavin, and Thiamin	Brasaemle	Chapter 24
3/24 Fri	Antioxidant mechanisms, Vitamin E and Carotenoids	Brasaemle	Chapter 29
3/28 Tues	Vitamin C	Brasaemle	Chapter 27
3/31 Fri	Water and Electrolytes – Na, K, Cl	Anthony	Chapter 34, 35
4/4 Tues	<b>EXAM III – 3/03 – 3/28 material</b>	Brasaemle	
4/7 Fri	Macrominerals – Ca, P, Mg	Anthony	Chapter 32, 33
4/11 Tues	Macrominerals – Ca, P, Mg	Anthony	Chapter 32, 33
4/14 Fri	Trace Minerals – Fe	Anthony	Chapter 36
4/18 Tues	Trace Minerals – Cu, Zn, Mn	Anthony	Chapter 37
4/21 Fri	Trace Minerals – I	Anthony	Chapter 38
4/25 Tues	Trace Minerals – Se	Anthony	Chapter 39
4/28 Fri	Ultratrace Minerals, F	Anthony	Chapter 40, 41
5/10 Wed	<b>EXAM IV – 3/31 – 4/28 material</b>	Anthony	

**Professors and Teaching Assistant (office hours by appointment):**

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**REQUIRED TEXT: Biochemical, Physiological and Molecular Aspects of Human Nutrition,** By Martha H. Stipanuk, and Marie A. Claudill, W. B. Saunders Publishers, 3<sup>rd</sup> edition. Copies of the 3<sup>rd</sup> edition are on reserve in Chang library. Although this textbook is expensive if purchased new, it can be purchased as a used book for less or rented for much less from Amazon or Barnes & Noble. Additional readings will be available online.

### **Class Notes and Study Questions:**

Weekly class notes and study questions will be available online; you must bring your own copies of the weekly class notes with you. There may be occasional additional handouts in class.

### **Important Notes:**

**Please note: *Biochemistry (either Introductory Biochemistry or General Biochemistry) is a prerequisite for this class.*** You will be expected to consult your biochemistry textbook to refresh your memory of specific topics as they arise in class. Please contact the instructors for help if you are having difficulty with the class material.

**Recitation:** There is an optional recitation associated with this class: Adv Nutr. II – Readings 709:403 taught by Bryn Yeomans on Monday, 2:15-3:35 pm, Davison 122 OR Tuesday, 2:15-3:35, Food Science 109. This class requires active participation in class discussions. Each week, study questions will be distributed, some or all of which will be due as homework the following week during recitation. **These study questions will also be posted on the web and available to all students.** There will also be a weekly quiz. This readings class is intended to help you understand the material through active learning and to review relevant biochemistry topics.

**EXAM 4:** The final exam (not comprehensive) will be Wednesday, May 10, 8-11 am, RAB001.

### **Learning goals:**

Through lectures, readings and class discussions, students will gain

1. an understanding of the dietary requirements, uptake, transport, metabolism and functions of vitamins and minerals
2. knowledge of the consequences of vitamin and mineral deficiency and excessive uptake
3. an understanding of the physiological regulation of food intake and energy metabolism and how various nutritional states (starvation, obesity) affect body composition and energy metabolism

Learning outcomes will be assessed through 4 exams:

Exam 1 – 140 points (Learning goal 3)

Exam 2 – 100 points (Learning goals 1 and 2 for vitamins)

Exam 3 – 100 points (Learning goals 1 and 2 for vitamins)

Exam 4 -- 160 points (Learning goals 1 and 2 for minerals)

TOTAL – 500 points

Exams include multiple-choice, fill-in, true-false, and short essay questions.

The study questions posted on the web serve as an important guide to the material that will be tested.

### **NOTES ABOUT MISSED EXAMS:**

Make-up exams will be granted only under exceptional circumstances, such as **serious** illness, or death in the immediate family. **It is the student's responsibility to contact the instructor in person, by telephone, or by e-mail, prior to or within 24 hours of the missed exam.** In the case of a missed exam that is appropriately documented (see below), the student must be prepared to **write the make-up within 1 week** following the missed exam. You must contact the instructor to arrange a date and time for a make-up exam. Appropriate documentation is required prior to approval to take a make-up exam; failure to provide appropriate documentation will result in a grade of F (0 points) on the missed exam.

**Appropriate documentation** verifying the circumstances for a missed exam must be provided to the instructor prior to taking the make-up exam.

Tests or examinations missed on the grounds of *medical circumstances* must be supported by a Physician's Statement. NOTE: The Physician's Statement must include a legible name and the telephone number and address of the physician's office; the physician's office may be contacted to verify that the forms were completed by the physician.

Tests or examinations missed on grounds of *non-medical circumstances* must be supported by appropriate documentation, i.e., death certificates, obituary notice, automobile accident reports, airline/train/bus tickets/receipt for emergency travel, etc. Airline/train/bus ticket/receipts for emergency travel must indicate destination, departure, and return dates. Missing an exam for a vacation or social gathering, or due to employment are not acceptable reasons for a make-up exam.

If a make-up examination is granted, the student must be prepared to write within the week following the missed examination. The instructor will select the date and time of the make-up examination. It is the student's responsibility to check with the instructor as to the date/time of the make-up. Make-up exams will consist of the same number of points as the missed exam, but may not be the same exam or the same format as the original exam. For example, instead of multiple-choice, the make-up examination may consist of essay questions.

**POLICY ON THE USE OF CELL PHONES AND LAPTOPS IN THE CLASSROOM:**

The use of cell phones in the classroom creates a challenge for educators as students are now able to access the internet and send text messages. Unfortunately, this behavior, while seemingly unobtrusive and innocent, creates a distraction in the classroom by distracting the student who is actively using their cell phone, fellow students who are near the cell phone, and the instructor who notices students not paying attention or actively texting. The same distractions are created by students who access the internet using their laptop computers.

Thus, our policy on this behavior is as follows:

1. All cell phones and other electronic equipment should be turned off and placed in your purse, backpack, or pocket, not on desktops.
2. Absolutely no texting or video production is allowed.
3. Laptop computers are permitted for note-taking ONLY.
4. Access to the internet is **NOT** allowed during class.
5. Any student found to violate any of these guidelines will be asked to leave the classroom.