

**HUN 4221**  
**Nutrition & Metabolism**  
**Spring 2014 – Section 0045**

<b>Instructor:</b>	Mitchell D. Knutson, PhD
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<b>Office hours:</b>	Thursday 1:00 PM to 3:00 PM *If you cannot make my regularly scheduled office hours, you may e-mail me to schedule an appointment.
<b>Teaching assistants:</b>	Wei Zhang and Richard Coffey
<b>Email:</b>	<a href="mailto:zhangwei@ufl.edu">zhangwei@ufl.edu</a> ; <a href="mailto:Tbore10@ufl.edu">Tbore10@ufl.edu</a>
<b>Office hours:</b>	Tuesday 11:30 AM to 1:00 PM
<b>Location</b>	Food Science and Human Nutrition, room 459
<b>Class location and meeting times:</b>	Tue: Period 4 (10:40 – 11:30 am), MCCA, room G186 Wednesday: Period 6 (12:50 – 1:40 pm), LIT, room 0101 Thurs: Period 4 (10:40 – 11:30 am), MCCA, room G186
<b>Attendance:</b>	Required
<b>Credits:</b>	3

**Course Description and Prerequisites:** The course content focuses on the metabolism, requirements, deficiencies and excesses of nutrients. Essential micronutrients will be covered with the greatest emphasis on vitamins and minerals. Nutrient utilization will be traced from the food source to digestion and absorption, transport, storage, and excretion. Each metabolic pathway dependent on specific nutrients will be evaluated with an emphasis on how the vitamin or mineral facilitates specific biochemical functions.

The basis of how nutrient deficiencies and excesses result in metabolic abnormalities with functional and potentially toxic consequences will be detailed. Amounts required in the diet to maintain normal metabolic pathways will be a focus of the course. Concepts related to reducing the risk for chronic diseases and birth defects will be highlighted. The validity of health claims for key nutrient supplements will be critiqued by evaluating the metabolic basis and current research. Prerequisites: BCH 3025 or BCH 4024; PET 2350C or PCB 4723C

**Course Learning Objectives:**

1. Students will understand the mechanisms of digestion and absorption for each nutrient.
2. Students will be able to identify the role of each nutrient in their respective metabolic pathway.
3. Students will be able to describe and recognize deficiency and toxicity symptoms associated with each nutrient.
4. Students will learn the recommended requirements for each nutrient.

**Required Course Materials**

1. Sakai course material: Lecture notes; discussion posts; grades for quizzes and exams.  
<http://lss.at.ufl.edu>
  - How to access Sakai:
    - a. Access requires a Gatorlink account. If you need to establish a Gatorlink account, go to <http://www.gatorlink.ufl.edu/>.
    - b. Once you have created a Gatorlink account, access the Sakai homepage at <http://lss.at.ufl.edu>. Continue with the Sakai System entry and log in using your Gatorlink ID. HUN 4221 should be listed as one of your courses. If you are unfamiliar with Sakai, you can review the “Tutorials” located under services on the Sakai homepage.

## Lecture Notes and Exams

Class lecture notes will be posted on Sakai by 7:00 PM the day before the lecture is to be presented so students can download the lectures and have them available for class.

**Recommended Text:** Advanced Nutrition and Human Metabolism, 6<sup>th</sup> Ed, Wadsworth Cengage Learning, 2012; Book has been customized to save you money and should be available at UF Bookstore.

**Class Attendance and Demeanor:** Students are expected to attend all classes, to arrive on time and to leave when dismissed by the instructor. Students are expected to show courtesy to their classmates and instructor by turning cell phones/pagers off before the class period begins and refraining from engaging in conversations during class unless directed to do so by the instructor. For questions regarding attendance policies, please see UF Attendance Policy: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

**Student Evaluation:** Three exams and ten quizzes will be used to evaluate student performance. Each exam will be worth 100 points and will cover one-third of the semester's course content. Exams must be taken when scheduled. Absence from an exam will result in a grade of "0" unless there are unavoidable extenuating circumstances (subject to our discretion) that can be documented to our satisfaction. Extenuating circumstances include unavoidable, unplanned situations such as illness (chart note from physician or clinic; vague notes such as "was seen" are not acceptable); family death (dated obituary); accident (police report); etc. Make up exams will **NOT** be given. An excused, documented absence from an exam will result in the grade for the missed exam being calculated as the average of the other two exams.

Ten 10 point quizzes will be given. Make up quizzes will **NOT** be given. The lowest quiz grade will be dropped and nine quiz grades will be counted towards the final grade. A missed quiz will count as the dropped quiz. Any other missed quizzes will result in a grade of "0" unless there are unavoidable extenuating circumstances as mentioned above or you have an interview at a professional school, which also will require documentation. An excused, documented absence from a quiz will result in the grade for the missed quiz being calculated as the average of the other quizzes.

Periodic bonus points may be given on unscheduled dates to check attendance. Bonus points will be added to total points at the end of the semester. **There will be NO make-up bonus points even if the absence is excused.**

Performance Indicators	Points
EXAM 1	100
EXAM 2	100
EXAM 3	100
10 QUIZZES	100
<b>Total</b>	<b>400</b>

Grading scale: (Grades will **NOT** be curved.)

A = 370-400    A- = 358-369    B+ = 346-357    B = 330-345    B- = 318-329    C+ = 306-317  
C = 290-305    C- = 278-289    D+ = 266-277    D = 250-265    D- = 238-249    E = <238

## Current UF Grading Policies

Please see the following link for information on grade point equivalencies: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

## Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php>.

### **Services for Students with Disabilities**

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

### **Campus Helping Resources**

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)  
Counseling Services  
Groups and Workshops  
Outreach and Consultation  
Self-Help Library  
Training Programs  
Community Provider Database
- Career Resource Center, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)

### **Software Use:**

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

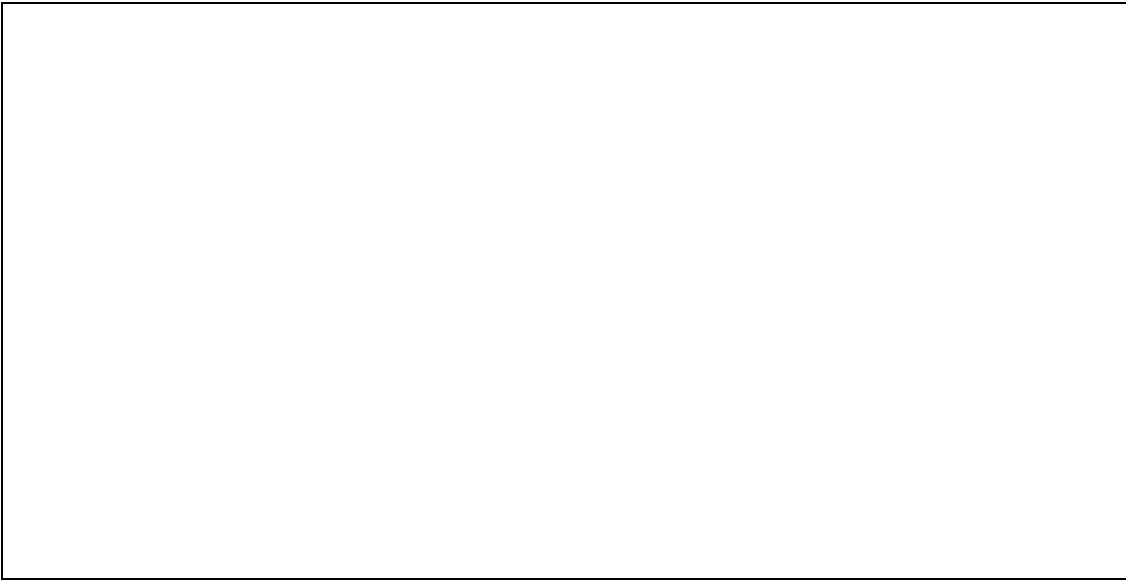
**Other Information:** Lecture materials and other information are the property of the University of Florida and the course instructor and may not be used for any commercial purpose. Students found in violation may be subject to disciplinary action under the University's Student Conduct Code. Only students formally registered for the course are permitted to attend lectures and take exams.

*We the members of the University of Florida community pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*

**Class Schedule (Subject to change)**  
 Section 0045, T R, period 4, MCCA G186  
 W, period 6 LIT 0101

Date		Topic	
<b>January</b>	7 Tue	Course Introduction	
	8 Wed	Folate	
	9 Thur	Folate	
Week 2			
	14 Tue	Folate	
	15 Wed	Vitamin B12	<b>Quiz 1- Folate</b>
	16 Thur	Vitamin B12	
Week 3			
	21 Tue	Vitamin B6	
	22 Wed	Thiamin (Vitamin B1)	<b>Quiz 2- B12 &amp; B6</b>
	23 Thur	Riboflavin (Vitamin B2)	
Week 4			
	28 Tue	Niacin (Vitamin B3)	
	29 Wed	Biotin	<b>Quiz 3- B1, B2, B3</b>
	30 Thur	Metabolic Integration	
Week 5			
<b>February</b>	4 Tue	Exam Review	
	5 Wed	<b>Exam 1</b>	
	6 Thur	Ascorbate (Vitamin C)	
Week 6			
	11 Tue	Vitamin A	
	12 Wed	Vitamin A	
	13 Thur	Vitamin K	
Week 7			
	18 Tue	Vitamin D	<b>Quiz 4- Vit. C, A, K</b>
	19 Wed	Vitamin D	
	20 Thur	Vitamin D	
Week 8			
	25 Tue	Vitamin E	
	26 Wed	Antioxidants	
<b>March</b>	27 Thur	Metabolic Integration	<b>Quiz 5- Vit. D, E, Antioxidants</b>
Week 9			
	4 Tue	<b>Spring Break</b>	
	5 Wed	<b>Spring Break</b>	
	6 Thur	<b>Spring Break</b>	
Week 10			
	11 Tue	Calcium	
	12 Wed	Magnesium and Phosphorus	
	13 Thur	Exam Review	<b>Quiz 6- Ca, Mg, P</b>
Week 11			
	18 Tue	<b>Exam 2</b>	
	19 Wed	Copper	
	20 Thur	Copper	
Week 12			
	25 Tue	Iron	
	26 Wed	Iron	
	27 Thur	Zinc	<b>Quiz 7- Cu &amp; Fe</b>
Week 13			
<b>April</b>	1 Tue	Zinc	
	2 Wed	Metabolic Integration	
	3 Thur	Selenium	
Week 14			
	8 Tue	Chromium	<b>Quiz 8- Zn &amp; Se</b>
	9 Wed	Iodine	
	10 Thur	Electrolytes	
Week 15			
	15 Tue	Carbohydrates	<b>Quiz 9- Cr &amp; I</b>
	16 Wed	Proteins	
	17 Thur	Lipids	
Week 16			
	22 Tue	Exam Review	<b>Quiz 10- LIPIDS, PRO, CHO</b>
	23 Wed	<b>Exam 3</b>	

## **Student Information Sheet\***



Please attach a picture of yourself to this box. You will not get your picture back so make sure it's a copy.

**Name:**

**Major:**

**Career Goals:**

**Hometown:**

**Hobbies:**

**Grade you expect to get in course:**

**\*This information sheet is worth 1 bonus point if you hand it in during class and 3 bonus points if you hand it in during office hours by January 31, 2014.**