

**HUN4221**  
**Nutrition & Metabolism**  
**Spring 2017 – Section 2C05**

**Instructor:** Mitchell D. Knutson, PhD  
**Office:** Food Science and Human Nutrition, Room 459 FSHN Bldg.  
**Phone:** 352-294-3753  
**Email:** [mknutson@ufl.edu](mailto:mknutson@ufl.edu)

**Office hours:** Mondays 3:00 – 5:00 pm  
\*If you cannot make my regularly scheduled office hours, you may e-mail me to schedule an appointment.

**Teaching assistants:  
(and office hours)** Brandon Eudy ([bjeudy@ufl.edu](mailto:bjeudy@ufl.edu)); W 9 am – 11 am, Room 449 FSHN  
Joey Olivera ([jolivera4@ufl.edu](mailto:jolivera4@ufl.edu)); T 12 pm – 2 pm, Room 459 FSHN

**Class location and meeting times:** Tue: Period 4 (10:40 – 11:30 am), MCCA, Room G186  
Wed: Period 6 (12:50 – 1:40 pm), LIT, Room 0101  
Thurs: Period 4 (10:40 – 11:30 am), MCCA, Room G186

**Attendance:** Required  
**Credits:** 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.

This course uses the e-Learning (Canvas) system for postings of various class materials, as well as scores for exams and other assignments. Access to e-Learning requires a Gatorlink account. To establish a Gatorlink account, go to <http://www.gatorlink.ufl.edu/>. Once you have created an account, access the e-learning homepage at <http://elearning.ufl.edu/>. Continue with e-Learning Login using your Gatorlink ID.

**Lecture Notes and Exams**

Class lecture notes will be posted in Canvas 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: (Optional)** Advanced Nutrition and Human Metabolism, 6th Ed, Wadsworth Cengage Learning, 2012. Various online resources will be discussed in class.

**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 phone ringers 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 approximately 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 (includes cumulative component)	100
10 QUIZZES	100
<b>Total</b>	<b>400</b>

Grading scale:

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

**Grades are not curved and are not negotiable.** Should you have concerns or questions about your performance in the class, please see your Instructor or Teaching Assistant as soon as possible. **Do not wait until the end of the semester!**

**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.

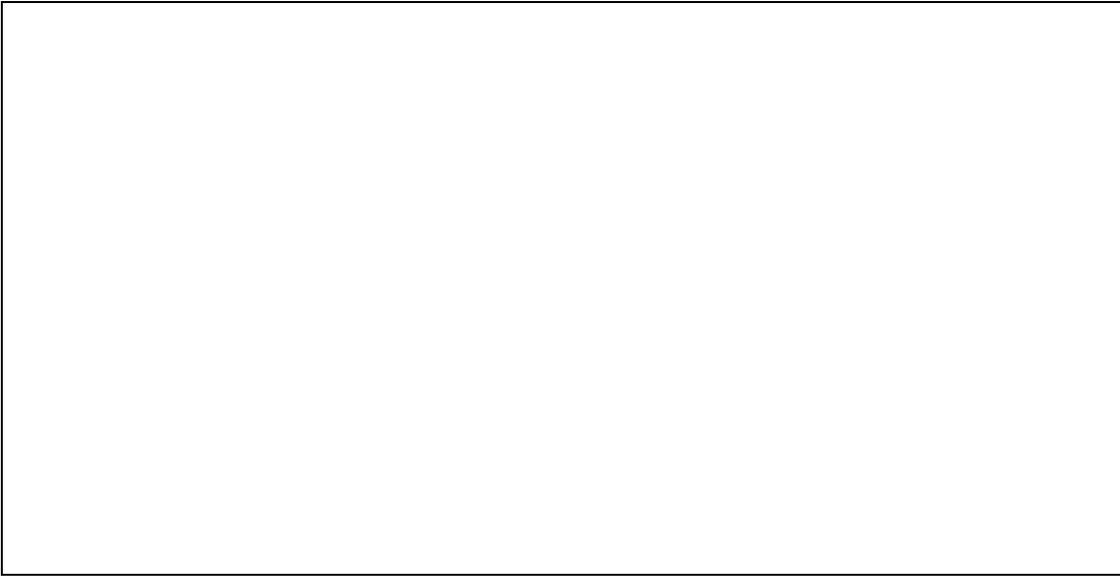
**Other Information:** Lecture materials and other information are the property of the University of Florida and the course instructor and may not be used for any commercial purpose. Students found in violation may be subject to disciplinary action under the University's Student Conduct Code. Only students 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 2C05, T R, period 4 MCCA G186  
 W, period 6, LIT 0101

Date	Topic	
<b>January</b>	4 Wed	Course Introduction
	5 Thur	Folate
Week 2		
	10 Tue	Folate
	11 Wed	Vitamin B12
	12 Thur	Vitamin B12
Week 3		
	17 Tue	Vitamin B6
	18 Wed	Thiamin (Vitamin B1)
	19 Thur	Riboflavin (Vitamin B2)
Week 4		
	24 Tue	Niacin (Vitamin B3)
	25 Wed	Biotin
	26 Thur	Ascorbate (Vitamin C)
Week 5		
	31 Tue	<i>Metabolic Integration I</i>
<b>February</b>	1 Wed	Vitamin E
	2 Thur	Exam review
Week 6		
	7 Tue	<b>EXAM 1 (Covers 12 lectures)</b>
	8 Wed	Antioxidants
	9 Thur	Vitamin D
Week 7		
	14 Tue	Vitamin D
	15 Wed	Vitamin D
	16 Thur	Vitamin A
Week 8		
	21 Tue	Vitamin A
	22 Wed	Vitamin K
	23 Thur	<i>Metabolic Integration II</i>
Week 9		
	28 Tue	Calcium
<b>March</b>	1 Wed	Phosphorus/Magnesium
	2 Thur	Copper
Week 10		
	7 Tue	<b>Spring Break</b>
	8 Wed	<b>Spring Break</b>
	9 Thur	<b>Spring Break</b>
Week 11		
	14 Tue	Iron
	15 Wed	Iron
	16 Thur	Exam review
Week 12		
	21 Tue	<b>EXAM 2 (Covers 13 lectures)</b>
	22 Wed	Zinc
	23 Thur	Selenium
Week 13		
	28 Tue	Iodine
	29 Wed	<i>Metabolic Integration III</i>
	30 Thur	Electrolytes
Week 14		
<b>April</b>	4 Tue	Carbohydrates
	5 Wed	Carbohydrates
	6 Thur	Proteins
Week 15		
	11 Tue	Proteins/Lipids
	12 Wed	Lipids
	13 Thur	<i>Metabolic Integration IV</i>
Week 16		
	18 Tue	Exam review
	19 Wed	<b>EXAM 3 (Covers 11 lectures &amp; cumulative)</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 3 bonus points if you hand it in by January 31, 2017. *Please hand in sheet to one of the TAs.***