

**Fall Syllabus 2016**  
**HUN 6321 – SEC 1179**  
**Proteins and Amino acids in Nutrition**  
**(MW - Period 4 (10:40 – 11:30 AM) & Period 5 (11:45 – 12:35 PM))**

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**INSTRUCTOR:** Dr. Lokenga Badinga, PhD

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Office Hours: By appointment or last two days of the semester

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**CATALOG DESCRIPTION:**

**HUN 6321: Proteins and Amino Acids in Nutrition (4).** Prereq: HUN 3221 and BCH 3025 or equivalent. Nutritional aspects of proteins and amino acids, with emphasis on metabolism, nitrogen and amino acid requirements, assessment of protein quality, effects of deficiencies, toxicities and physiological stresses, and techniques for improving protein nutrition.

**COURSE FORMAT:**

Four one hour lectures per week. The general format will be a combination of lectures and discussions on current concepts in protein and amino acid nutrition in humans.

**EXPECTED OUTCOMES:**

Upon completing this course, graduate students are expected to:

1. Understand the physiological, biochemical, and molecular factors that control protein and amino acid metabolism in humans.
2. Appreciate how current developments in protein biochemistry and metabolism can be used to improve the nutritive value of human diets.
3. Develop independent critical thinking and conversational skills.

**RECOMMENDED TEXT: NONE**

There is no required textbook. Many of the sections are described in detail in:

1. “**Nutrition for Health and Health Care**”, 5<sup>th</sup> ed., by DeBruyne & Pima, 2014.
2. “**Biochemical, Physiological, and Molecular Aspects of human nutrition**”, 3<sup>rd</sup> ed., by Stipanuk & Caudill, 2013.
3. “**Nutritional Biochemistry**”, 2<sup>nd</sup> ed., by Brody, 1999
4. “**Metabolism**”, 1<sup>st</sup> ed., by Coffee, 1998.

## **ASSIGNED READINGS:**

During the semester, each student will be required to present a recent scientific journal article that relates to protein and amino acid nutrition in humans. The papers will be selected from a variety of scientific articles and assigned randomly to students. On the day of discussion, students will have 30 - 40 min to present the paper (summarizing the objectives, experimental design, key results, conclusions and strengths/weaknesses). The presiding student will then have about 10 - 20 min to lead the discussion regarding the appropriateness of experimental approaches as well as the biological significance of the work. Other students will be expected to read the paper in advance and prepare several points for discussion. One day before the paper discussion, the presenter will be required to turn in a one-page summary of the article and the power point slides which will be presented. These can be sent to the Instructor via e-mail attachment the day before the paper discussion. The presentations will be worth 25 points (or 6.25% of the final grade). Students are expected to participate actively in all discussions to receive full credit. Students don't have to be expert in the field to lead a good discussion of the journal article.

## **GRADES:**

The final grade will be based on performance in all areas of the course as follows:

Hourly exams	2 @ 100 pts = 200 pts (50.00%)
Final exam (cumulative)	1 @ 150 pts = 150 pts (37.50%)
Paper discussion	1 @ 25 pts = 25 pts ( 6.25%)
Short quizzes	5 @ 5 pts = 25 pts ( 6.25%)

### **Grading Scale for this course**

<b>A</b>	<b>A-</b>	<b>B+</b>	<b>B</b>	<b>B-</b>	<b>C+</b>	<b>C</b>
<b>93-100</b> %	<b>90-92.9</b> %	<b>85-89.9</b> %	<b>80-84.9</b> %	<b>75-79.9</b> %	<b>70-74.9</b> %	<b>65-69.9</b> %

Further information on the UF grading policy can be found at the following link:  
<http://gradcatalog.ufl.edu/content.php?catoid=5&navoid=1054#grades>

## **ATTENDANCE AND MAKE-UP EXAM POLICY:**

Class attendance is not mandatory but strongly encouraged if you want to do well in the course. Exams are to be taken at the scheduled days and times. For excused absences (illness or athletic competitions), a letter from the treating physician or the athletic department prior to the test dates will be required. Requirements for class attendance and make-up exams, assignments and other work are consistent with

university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

## **ONLINE COURSE EVALUATION PROCESS**

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

## **ACADEMIC HONESTY, SOFTWARE USE, UF COUNSELING SERVICES, SERVICES FOR STUDENTS WITH DISABILITIES**

### **Academic Honesty:**

In 1995 the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty. When students enroll at the university, they commit themselves to the standard drafted and enacted by students. In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code.

The honor code: "*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*"

On all work submitted for credit by students at the university, the following pledge is either required or implied: "*On my honor, I have neither given nor received unauthorized aid in doing this assignment.*"

The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior.

Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean or student Honor Court.

It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor.

This policy will be vigorously upheld at all times in this course.

### **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.

### **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. Both the Counseling Center and Student Mental Health Services provide 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. The Counseling Center is located at 301 Peabody Hall (next to Criser Hall). Student Mental Health Services is located on the second floor of the Student Health Care center in the infirmary.

1. *University Counseling Center*, 301 Peabody Hall, 392-1575, [www.counsel.ufl.edu](http://www.counsel.ufl.edu)
2. *Career Resource center*, CR-100 JWRU, 392-1602, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)
3. *Student Mental Health Services*, Rm. 245 Student Health Care Center, 392-1171, [www.shcc.ufl.edu/smhs/](http://www.shcc.ufl.edu/smhs/)

Alcohol and Substance Abuse Program (ASAP)  
Center for Sexual Assault / Abuse recovery & Education (CARE)  
Eating Disorders Program  
Employee Assistance Program  
Suicide Prevention Program

### **Students with Disabilities:**

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes the registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services, and mediating faculty-student disability related issues. 0001 Reid Hall, 392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

## LECTURE TOPICS

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Date	Topic
<b>Week 1</b>	
Aug 22/16	Course organization and Learning Objectives
Aug 24/16	Overview of Proteins and Amino Acids
<b>Week 2</b>	
Aug 29/16	Functional anatomy of the human gastrointestinal (GI) tract
Aug 31/16	<u>Journal article discussion</u> (1)
<b>Week 3</b>	
<b>Sep 05/16</b>	<b><u>Holiday</u></b>
Sep 07/16	<u>Journal article discussion</u> (2)
<b>Week 4</b>	
Sep 12/16	Digestion and absorption of dietary proteins
Sep 14/16	Journal article discussion (3)
<b>Week 5</b>	
Sep 19/16	Protein biosynthesis and degradation
Sep 21/16	<u>Journal article discussion</u> (4)
<b>Week 6</b>	
Sep 26/16	<b><u>Hourly Exam #1</u></b>
Sep 28/16	<u>Journal article discussion</u> (5)
<b>Week 7</b>	
Oct 03/16	Amino acid metabolism
Oct 05/16	<u>Journal article discussion</u> (6)
<b>Week 8</b>	
Oct 10/16	Food protein and protein quality
Oct 12/16	<u>Journal article discussion</u> (7)
<b>Week 9</b>	
Oct 17/16	Protein/Amino acid requirements
Oct 19/16	<u>Journal article discussion</u> (8)
<b>Week 10</b>	
Oct 24/16	Protein and Energy nutrition
Oct 26/16	<u>Journal article discussion</u> (9)
<b>Week 11</b>	

**Oct 31/16**

Nov 02/16

**Hourly Exam #2**

Journal article discussion (10)

**Week 12**

Nov 07/16

Lipoproteins

Nov 09/16

Journal article discussion (11)

**Week 13**

Nov 14/16

Glycoproteins and proteoglycans

Nov 16/16

Synthesis specialized products from amino acids

**Week 14**

Nov 21/16

Current challenges in protein nutrition

**Nov 23/16**

**Thanksgiving**

**Week 15**

Nov 28/16

Clinical issues in protein nutrition

Nov 30/16

Protein and Vegetarian diets

**Week 16**

Dec 05/16

Office hours: Final exam preparation

Dec 07/16

Office hours: Final exam preparation

**Dec 16/16**

**Final Exam (Cumulative) in Room: Aquatic BLDG, Rm 101,  
From 7:30 - 9:30 am**

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