

ANS 6449 – Vitamins

Fall 2022, Schedule T 1:55-3:50; Th 1:55-2:45
Room TBD

INSTRUCTOR: Dr. Corwin Nelson
Larson Dairy Science Bldg. – 204F
cdnelson@ufl.edu
352-294-6993

Office Hours: By appointment

CATALOG DESCRIPTION: CREDIT: 3; PREREQ: BCH 3025 or BCH 4024 or equivalent.

Overview of vitamin nutrition and physiology. Special emphasis will be placed on mechanisms of action and dietary requirements of livestock species.

COURSE FORMAT:

Lectures, assigned readings (75 min/week) and discussions (75 min/week).

Application of analytical techniques.

COURSE OBJECTIVES:

1. To provide graduate and advanced undergraduates with a comprehensive overview of the physiological, biochemical, cellular and molecular processes of vitamins.
2. Review consequences of deficiencies.
3. Review and discuss evidence for vitamin requirements and recommendations.
4. Examine current practices and outcomes for vitamin supplementation.
5. To critically evaluate and discuss research literature.

EXPECTED OUTCOMES:

Upon completing this course, graduate students are expected to:

1. Possess a clear understanding of vitamin physiology of farm animals,
2. Be knowledgeable of vitamin deficiencies and dietary requirements,
3. Be knowledgeable of analytical techniques for vitamin concentrations in feedstuffs and biological samples.
4. Read, interpret and discuss scientific journal articles in nutrition and physiology.
5. Develop and discuss hypotheses and experimental approaches for testing actions and efficacy of vitamins.

TEXT:

Required: None

Recommended:

Biochemistry, 8th Edition. Jeremy M. Berg, John L. Tymoczko, Gregory J. Gatto, Lubert Stryer; W.H. Freeman Publishers, 2015. ISBN-10: 1464126100

Vertebrate Endocrinology, 5th Edition, Norris and Carr, ISBN# 0123948150

Nutrient Requirements of Dairy Cattle, NASEM, 2021

Nutrient Requirements of Beef Cattle, NRC, 2016

GRADING:

<u>Activity</u>	<u>Percent of final grade</u>
Exam 1	25%
Exam 2	25%
Exam 3	25%
Analytical Lab	25%

Grading scale:

A	(>93-100%)
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%)
E	(<60)

Exams (75%)

- Three exams will be given at two-week intervals.
- Exams will be comprised of 8-10 short answer/essay questions.
- Exams will account for 75% of the final course grade (25% for each exam).

Analytical Lab (25%)

Students will conduct analyses of vitamins in feedstuffs or biological samples and provide a report of the results.

OUTLINE OF COURSE TOPICS

Module	Dates	Exams	Topic
1	Week 1		Overview and history of vitamins
2	Weeks 2-3		Vitamin A
3	Week 4-5		Vitamin D
	Oct 4	Exam 1	
4	Week 6-7		Vitamin E
5	Week 8		Vitamin K
6	Weeks 9-10		B vitamins
	Nov 8	Exam 2	
7	Week 11		Vitamin C
10	Week 12-13		Analytical Methods
11	Weeks 14-15		Nutritional Recommendations
	Dec 6	Exam 3	

GRADES AND GRADE POINTS

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

ABSENCES AND MAKE-UP WORK

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>.

It is expected students will attend all meeting periods and regularly check the course content in Canvas (<https://ufl.instructure.com>) for announcements and discussions.

During the class meetings students are expected to refrain from activities, such as cell phone use and internet use, that distract from the lecture and discussion.

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

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/process/student-conduct-honor-code>.

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.

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/

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/

Counseling Services
Groups and Workshops
Outreach and Consultation
Self-Help Library
Wellness Coaching

U Matter We Care, www.umatter.ufl.edu/

Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/