ANS6636
Meat Technology

Overview
Chemistry, physics, histology, bacteriology, and engineering involved in the handling, processing, manufacturing, preservation, storage, distribution, and utilization of meat.

Goals
Gain a better understanding of and appreciation for
- muscle components, their function and manipulation during live animal growth
- metabolic conversion of muscle to meat and factors affecting meat quality
- the microbial populations that impact food safety and security

Course website:
E-learning support services;

Requirements
The student should have completed undergraduate coursework in biochemistry, biology, chemistry and microbiology. Each student needs to write a literature review and presents the review in the class.

Literature review and Student presentation
- Students can select any topics related to meat technology but it is recommended to discuss with major advisors to select the topic
- Students need to inform their topics to main instructor (Dr. KC Jeong), no later than 8/30/2019 (5 PM)
- Due date for the literature review is Nov. 1, 2019 (5 PM). Email to Dr. KC Jeong
- The literature should follow the format of a Review paper in any scientific journals
- Students are required to present the literature review in class (Module V)

Modules
8/21-9/6
Post-harvest processing - SK Williams (wsallyk@ufl.edu) A comprehensive examination of factors affecting production and safety of meat and poultry products.

9/9-9/25
Preharvest food safety - KC Jeong (kcjeong@ufl.edu) An inclusive survey of microbial organisms affecting meat safety.

9/27-10/18
Muscle - Jason Scheffler (jmscheff@ufl.edu) A global overview of muscle, structure, and quality.

10/21-11/15
Meat - Tracy Scheffler (tscheffler@ufl.edu) An in-depth examination of muscle to meat conversion and the factors that affect meat quality.

11/18–11/25
Student presentation - KC Jeong
Evaluation

Grades will be based on performance on 4 exams (4 x 100 pts) and a literature review/student presentation (100 pts). Each instructor administers an exam (100 pts) at the completion of the topic module. The literature review (50 pts) and student presentation (50 pts) will be graded by instructors based on quality of the literature review and presentation.
There is no final exam.

Plagiarism will result in no credit awarded for the literature review and presentation.

Course grades (500 total pts) are as follows
A (465 and above),
A- (450 - 464),
B+ (435-449),
B (415-434),
B- (400-414),
C+ (385-399),
C (365-384),
C- (350-364),
D+ (335-349),
D (315-334),
D- (300-314),
E (<300)

Lecture schedule

I. Post-harvest processing (Dr. Sally Williams)
1 (8/21, W) Factors Affecting Muscle food protein
2 (8/23, F) Muscle color
3 (8/26, M) Packaging Systems
4 (8/28, W) Food microbiology: Intrinsic Factors
5 (8/30, F) Food microbiology: Extrinsic Factors
   (9/2, M) No class (Labor Day)
6 (9/4, W) Determining shelf life of muscle food products
7 (9/6, F) Exam I
II. Pre-harvest food safety and one health approach  (Dr. KC Jeong)

8 (9/9, M)  Overview of meat safety/ Pre-harvest food safety
9 (9/11, W)  Bacterial pathogens/virulence factors
10 (9/13, F)  Bacterial pathogens/virulence factors
11 (9/16, M)  Current topics in meat safety – antibiotics
12 (9/18, W)  Current topics in meat safety – antibiotics
13 (9/20, F)  Source tracking
14 (9/23, M)  One health concept for animal and public health
15 (9/25, W)  Exam II

III. Muscle (Dr. Jason Scheffler)
16 (9/27, F)  Muscle design and structure
17 (9/30, M)  Muscle design and structure
18 (10/2, W)  Microanatomy
(10/4, F)  No class (Homecoming day)
19 (10/7, M)  Microanatomy
20 (10/9, W)  Contraction
21 (10/11, F)  Growth and development
22 (10/14, M)  Protein turnover
23 (10/16, W)  Growth promotants, etc
24 (10/18, F)  Exam III

IV. Meat (Dr. Tracy Scheffler)
25 (10/21, M)  Muscle metabolism and fiber type
26 (10/23, W)  Muscle metabolism and fiber type
27 (10/25, F)  Conversion of muscle to meat
28 (10/28, M)  Conversion of muscle to meat
29 (10/30, W) Other postmortem changes
30 (11/1, F) Genetic aberrations and meat quality
31 (11/4, M) Tenderness
32 (11/6, W) Palatability
33 (11/8, F) Flavor
  (11/11, M) No class (Veterans Day)
34 (11/13, W) Review of Section IV
35 (11/15, F) Exam IV

V. Student presentation (Dr. KC Jeong)
36 (11/18, M) Student presentation, group A (2 students, 25 minutes/student)
37 (11/20, W) Student presentation, group B (2 students, 25 minutes/student)
38 (11/22, F) Student presentation, group C (2 students, 25 minutes/student)
39 (11/25, M) Student presentation, group D (2 students, 25 minutes/student)

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

Attendance 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:

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

1. 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

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

   - U Matter We Care, www.umatter.ufl.edu/
   - Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/

Student Complaints:

- Online Course: http://www.distance.ufl.edu/student-complaint-process