

ANS 3634C – Meats

Fall 2020

3 Credit hours

Lecture: Tuesday & Thursday, Period 1 (7:25 – 8:15 am)

Lecture will be online via Zoom, delivered synchronously

Lab: Most labs will be online delivered synchronously from 2- 4 pm

We will have four face-to-face synchronous lab sessions at the Animal Sciences Bldg

(Oct 7 or 8, Oct 15, Nov 11 or 12, and Nov 19)

Cumulative Final – Tues, Dec 15- 10 am

Course description: Integrated studies of the science and technology involved in the utilization of meat animals for food with focus on animal growth, carcass cutability, wholesomeness, palatability, and merchandising of red meat.

Instructor:

Chad Carr, PhD

Office: 224B Animal Science Bldg (459)

Office phone: 352-392-2454

Office hours: open door policy, but make an appointment to guarantee availability

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Teaching assistants: Briana Hawryluk bhawryluk@ufl.edu & Chloe Gingerich

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Lecture: Tuesday & Thursday, Period 1 (7:25 – 8:15 am)- Synchronous ZOOM

Lab: Oct 15th & Nov 19th: Thursday, Period 6 & 7 (12:50 – 2:45 pm; section 10539) OR

Thursday, Period 8 & 9 (3:00 – 4:55 pm; section 10540)

Location: Animal Science Building Atrium – Adjacent to Room 156

Lab: Oct 7 or 8 and Nov 11 or 12- Room 156 & Meat Laboratory cutting room- Individual sign-up

The sensory and processed meat labs will be in the outdoor atrium adjacent to the animal science classrooms during your regularly scheduled lab period. Wednesday and Thursday, October 7th & 8th and November 11th & 12th will be the weeks of hand-on labs. The instructor will have students sign up in groups of 3 for 1 hr spots on either Wed or Thurs of those respective weeks. The instructor will run the hands-on labs exclusively by himself to minimize contact with meat laboratory employees.

Students will be asked to keep their cameras on during both class and lab. Classes will not be recorded.

All lecture tests will be fully online during the class period via Honor Lock in Canvas.

Lab quizzes will be given from 1:30- 2 pm in Canvas via live Zoom, prior to lab starting @ 2 on Sept 24, Oct 29, and Dec 3.

Student Requirements:

- **Face Coverings:** Face coverings are to be supplied by the student and worn throughout the duration of the face-to-face sessions, both indoors and outdoors while on UF property. If the student forgets their face covering, then one may be provided by the instructors if available. If one is not available, then the student will be asked to leave.
- **Social Distancing:** Social distancing must be observed throughout the duration of the face-to-face synchronous session – this is defined as maintaining a minimum physical distance of 6 feet between the student, their peers, instructors, and teaching assistants.
- **Hand Washing/Sanitizing:** Upon entering the classroom, lab space, or meat laboratory, students will be required to wash their hands for a minimum of 20 seconds. When handwashing stations are not available, hand sanitizer will be used instead. Additionally, hand washing or sanitizing will occur between uses of shared equipment during the lab. Hand sanitizer will be supplied by the instructors, but the student is strongly encouraged to bring their own hand sanitizer for personal use.
- **Student Illness:** If a student does not feel well and/or is running a fever or displaying any other symptoms of illness, they are NOT to attend the face-to-face synchronous session. Please see contingency plans for student illness for more information.

Instructor Requirements:

- **Face Coverings:** Instructors and teaching assistants will supply their own face coverings and wear them throughout the duration of the face-to-face synchronous session, both indoors and outdoors while on UF property. For periods with toe-to-toe contact, the instructor will wear an n95 mask.
- **Social Distancing:** Social distancing must be observed throughout the duration of the face-to-face synchronous session – this is defined as maintaining a minimum physical distance of 6 feet between the student, their peers, and teaching assistants. The days we make sausage and cut pork carcasses, there will be “toe-to-toe” contact between instructors and students. The instructor will wear an n95 mask for those labs. Breaching the social distance barrier will only be done when absolutely necessary and for the minimum period of time required to accomplish the learning objective and/or keep the student safe when cutting meat.
- **Hand Washing/Sanitizing:** Upon entering the lab space or meat laboratory, instructors and teaching assistants will be required to wash their hands for a minimum of 20 seconds. Additionally, hand washing or sanitizing will occur between uses of shared equipment during the lab. Hand sanitizer will be supplied by the instructors, but students are strongly encouraged to bring their own hand sanitizer for personal use.
- **Instructor or Teaching Assistant Illness:** If an instructor or teaching assistant does not feel well and/or is running a fever or displaying other symptoms of illness, they will not attend the face-to-face synchronous session. For more information, please see the instructor illness contingency plans.

Ingress/Egress Process:

- When labs are held in the ANS outdoor atrium, students will wash their hands in the sinks located in 151 or 155 before seating themselves in the outdoor atrium area. Tables and chairs will be situated to be 6 feet apart and students will not be allowed to move their chair. Students will be asked to wash and sanitize their hands prior to leaving the classroom/atrium area.
- When labs are held in the meat laboratory cutting room students will wash their hands in the sink located in 156 prior to entering the cutting room. Students will stage in 156 in clearly marked chairs to allow for > 6 ft physical distancing when putting on additional meat cutting related PPE prior to entering the cutting room.

Cleaning Procedures:

- Instructors and teaching assistants will further clean and sanitize the classroom and equipment as needed prior to students arriving for lab.
- Shared equipment (knives, scabbards and saws) will be cleaned and sanitized between student uses. Students will wear plastic gloves when in the meat processing room.

Slaughter process observation:

- The instructor will share the dates of the slaughter schedule of the meat laboratory and the instructor will be available on those morning for anyone who wants the watch the process in person. In groups of 2-3 we will observe the slaughter process from the slaughter floor catwalk, with the students wearing masks and the instructor wearing an n95 mask. Observations will be for < 10 minutes and as distanced as possible.

Contingency Plans:

- Students Illness: If a student does not feel well and/or is running a fever or displaying any other symptoms of illness, they are NOT to attend the four in person labs. Instead, they will attend the online synchronous session that will be streamed from the face-to-face session. If they are too ill to attend and participate in the online synchronous session, they are required to notify the instructors for alternative instructional options. This will be a recorded online synchronous session with alternative assignments.
- Instructor Illness: If an instructor or teaching assistant does not feel well and/or is running a fever or displaying other symptoms of illness, they will not attend the face-to-face synchronous session. Jason Scheffler will serve as the alternative instructor. If the instructor needs additional assistance teaching the labs synchronously, healthy faculty and graduate students with subject matter expertise for lab material will be used. Alternatively, if none of these options are available, contingency material developed prior to the start of the fall 2020 semester can be used to accomplish learning objectives in an asynchronous fashion.
- Cancellation of In-person Instruction: In the event in-person instruction is cancelled at any time during the semester, the use of contingency material developed prior to the start of the fall 2020 semester will be used to accomplish learning objectives in a synchronous fashion.

Option 1: Students in Gainesville area with ability to meet face-to-face

- We will have four face-to-face synchronous lab sessions. The sensory and processed meat labs will be in the outdoor atrium adjacent to the animal science classrooms during your regularly scheduled lab period. Wednesday and Thursday, October 7th or 8th and November 11th or 12th will be the weeks of hand-on labs. The instructor will have students sign up in groups of 3 for 1 hr spots on either Wed or Thurs of those respective weeks. The instructor will run the hands-on labs exclusively by himself to minimize contact with meat laboratory employees.
 - When meeting face-to-face, students will be required to wear face coverings according to local and university policy. Students are expected to provide their own face coverings.
 - Students will be required to wash their hands or use hand sanitizer at the start of each lab and between uses of shared equipment. Hand sanitizer will be available for use throughout the lab. Hand sanitizer will be provided by the instructors, but students are encouraged to bring their own hand sanitizer for personal use.
- Complete all post-lab quizzes and assignments on Canvas by scheduled due dates.

Option 2: Students unable to meet face-to-face, regardless of location

- Attend the synchronous session which will be streamed live from the face-to-face of your lab.
 - You are expected to participate in the live format with your cameras on. Microphones may be unmuted as needed to participate in class discussions, ask questions, and answer instructor questions. Additionally, the chat feature may be employed to interact with instructors and your peers.
 - Synchronous lab sessions will be recorded, but only made available to students with absences in line with university attendance policies.
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.
- Complete all post-lab quizzes and assignments on Canvas by scheduled due dates. course objectives:

Upon completing this course, students should be able to:

1. Describe the principles of meat inspection, microbiology, and food safety programs
2. Describe anatomy of carcasses and major tissues, and their significance to meat merchandizing and utilization
3. Explain muscle function and the biochemical processes involved in the conversion of muscle to meat
4. Explain ante- and postmortem handling factors that influence meat quality characteristics and palatability
5. Describe steps and principles involved in slaughter of meat animals, and in particular, their relation to animal welfare, food safety, and meat quality
6. Explain principles of carcass fabrication and identify wholesale and retail cuts
7. Discuss breeding, nutritional, and other management practices that impact carcass composition and quality

Optional Texts:

Lawrie's meat science (8th ed.) Toldrá. Woodhead Publishing.

Principles of Meat Science. 2012. Aberle, Forrest, Gerrard, & Mills. Kendall Hunt Publishers.

Course Website

The Canvas website will contain the syllabus, class notes, and resources such as readings and lessons. Class notification emails will be sent via the course website.

Course Grading:

Lecture exams:

1. October 6
2. November 12^h
3. Cumulative final- Dec 15- 10 am

Lab quizzes:

1. September 24th
2. October 29th
3. December 3rd

Grades will be based on:

Laboratory	Pts	Lecture	Pts
Quiz 1	50	Exam 1	100
Quiz 2	50	Exam 2	100
Quiz 3	50	Cumulative Final	200
Lab worksheets- 13	50	Class attendance	50
Retail audit	50		
Total lab	250	Total lecture	450
Total points (lab + lecture) = 700			

Attendance will be taken on at least 20 days, worth up to 50 total points. You will not be able to receive more than 50 points for attendance. Completion of each week's lab assignment will be worth 3.85 points each. All lab reports are should be uploaded to Canvas by the Tuesday following lab at noon.

Grades determined as follows (based on % of total possible points):

A	90 & Above
B+	85 – 89.99
B	80 – 84.99
C+	75 – 79.99
C	70 – 74.99
D+	65 – 69.99
D	60 - 64.99
F	59.99 & Below

Lecture Schedule

Date		Lecture topic
T	9-1	Course overview/ Global meat supply chain
Th	9-3	Meat inspection overview- Food Safety System/HACCP
T	9-8	Slaughter inspection
Th	9-10	Microbiology
T	9-15	Food safety interventions
Th	9-17	Carcass components & growth
T	9-22	Muscle structure
Th	9-24	Muscle structure & function
T	9-29	Muscle contraction
Th	10-1	Muscle contraction & energy
T	10-6	Exam 1
Th	10-8	Conversion of muscle to meat – intro
T	10-13	Conversion of muscle to meat – rigor
Th	10-15	Conversion of muscle to meat – defects
T	10-20	Fiber types
Th	10-22	Producer / packer problems
T	10-27	Antemortem factors affecting quality, yield, and palatability- Tenderness juiciness, WHC, flavor
Th	10-29	Antemortem factors affecting quality, yield, and palatability
T	11-3	Postmortem factors affecting quality, yield, and palatability Fat quality oxidation
Th	11-5	Postmortem factors affecting quality, yield, and palatability
T	11-10	Postmortem factors affecting quality, yield, and palatability
Th	11-12	Exam 2
T	11-17	Meat color
Th	11-19	Introduction to meat processing
T	11-24	Processed meat
Th	11-26	Thanksgiving
T	12-1	Processed meat
Th	12-3	Meat in the diet
T	12-8	Meat in the diet
Cumulative Final – Tues, Dec 15- 10 am		

All lectures will be given virtually and synchronous at scheduled class time.

Lab Schedule

Date	Virtual/In-person	Subject	Location
9-3	Virtual/Synchronous	Video tours	
9-10	Virtual/Synchronous	Food safety- GMPs & SOPs	
9-17	Virtual/Synchronous	Anatomy- vacuum-sealed cuts and pieces will be displayed	
9-24	Virtual/Synchronous	Slaughter Yields & Inspection/Conversion of Muscle to Meat (LAB QUIZ)	
10-1	Virtual/Synchronous	Pig slaughter	
10-7 or 8	In- person	Pork carcass fabrication- to retail	Meat laboratory cutting room
10-15	In- person	Cookery/Sensory	Animal Science Atrium
10-22	Virtual/Synchronous	Lamb slaughter & fabrication	
10-29	Virtual/Synchronous	Beef slaughter (LAB QUIZ)	
11-5	Virtual/Synchronous	Beef fabrication	
11-11 or 12	In- person	Sausage manufacturing	Meat laboratory cutting room
11-19	In- person	Processed meat eating	Animal Science Atrium
11-26		Thanksgiving Break – No Class	
12-3	Virtual/Synchronous	Retail audit presentations (LAB QUIZ)	

LAB QUIZZES WILL BE TAKEN ON CANVAS VIA ZOOM @ 1:30 pm

For the two labs in the cutting room, you are required to wear a clean shirt with sleeves, long pants/jeans (no shorts), closed-toed shoes. The cutting room is refrigerated so pack a sweatshirt.