

# Poultry Products 508 (3 Credits)

## Syllabus

8:30 – 12:00

1:30 – 4:30

Canvas URL: <https://canvas.wisc.edu/courses/148398>

### WEEK 1 (May 13-20, 2019)

#### Muscle Food Products

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**Food Applications Lab Instructor**  
Beth Button (Faculty Assistant)  
Dept. Food Science (UW-Madison)  
Phone: (608) 265-2388  
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**Guest Speaker**

Andy Milkowski (Adjunct Professor)  
Adam Borger (Outreach Prgrm Mngr)

**Teaching Assistants**

James Whalin  
Sofia Erazo-Castrejon

### WEEK 2 (May 20-24, 2019)

#### Egg and Egg Products

**Microbiology and Food Safety**  
Anup Kollanoor Johny  
University of Minnesota  
405 B Haecker Hall, 1364 Eckles Ave  
Phone (office) 612-625-5277  
[kollanooranup@gmail.com](mailto:kollanooranup@gmail.com)

**Egg Functionality**  
Dianna Bourassa  
Auburn University  
302A Poultry Science  
Phone (office) (334) 844-2610  
[dvb0006@auburn.edu](mailto:dvb0006@auburn.edu)

**Office Hours:** schedule an individual meeting with each instructor as needed.

#### *Course Description and Intended Learning Outcomes:*

- This course will cover the basic principles and technologies involved in producing eggs, egg products and muscle-based products.
- Emphasis will be placed on understanding the role of chemical and physical processes that go into producing a high quality product.
- Students will learn how to quantitatively measure quality attributes of the different products they produce in the laboratory segments.
- An understanding of why a certain ingredient is needed in one product but not another product will be essential. Basic microbiological principles related to product quality and food safety will be described.
- Reflection exercises to process general concepts

## Field Trip:

The tour will serve to introduce students to real world processing technologies in the poultry and meat industry. Time will be allotted to direct questions to the tour guide. A field trip to Brakebush Brothers is scheduled for **Friday May 24**. Bring a sweatshirt/jacket.

Requirements: Wear closed-toe shoes without heels and wear pants during laboratory exercises and field trips. No jewelry is permitted. Complete the security form before the trip (if required). T-shirts or long sleeve shirts are permitted, tank tops are not.

Plan to have NO contact with live fowl within 72 h of the field trip.

## Grading system:

Quiz 1-5 Meats	200 points
Exam 3 Eggs	100 points
Exam 4 Eggs	100 points

Participation	20 points
Presentation/Paper	20/20 points

\*Graduate Students taking course for “Graduate Credit” will be required to complete a special project as agreed upon by the student and major course instructors. Exams will be weighted at 70% of final grade, Special Project 20% of final grade, and Participation 10% of final grade.

## Grading Scale:

### Non-UW-Madison students

A	≥ 90%
B	≥ 80%
C	≥ 70%
D	≥ 60%
F	< 60%

### UW-Madison students

A	≥ 93%
AB	≥ 88%
B	≥ 83%
BC	≥ 78%
C	≥ 70%
D	≥ 60%
F	< 60%

## Attendance Policy and Make-up Exams:

Regular attendance is expected of all students. A grade of zero will be given for unexcused absences during an exam period. Contact the Midwest Poultry Consortium (Beth Nelson) to determine if an excused absence during any segments of the course can be allowed.

## MEATS SECTION

	Mon May 13		Tues 14		Weds 15	
8:30-12:00			10	quiz	10	quiz
	50	Overview	50	↑water binding	40	Other Ingredients
	10		10		10	
	30	Overview	40	↓water binding	100	Sticks
	20	Harvest Basics	10		10	
	10		50	Debone	50	Preservation
	90	PRL-Harvest	10			
		40	Curing			
1:30-4:30	30	Proteins	50	Thermal Processing	30	Micro
	20	syllabus	10		10	
	10		50	Meat Emulsions	140	FAL
	120	FAL	10			
			60	FAL		

	Thurs 16		Fri 17		Mon 20		Thurs 23	Friday 24
8:30-12:00	10	quiz	20	quiz	30	quiz		
	40	Harvest Defects	50	The 'Natual' Market				field trip
	10		10					
	90	Deli	30	Meat and Health				
	10		10					
	50	Fats & Oxidation	30	Review Formulations				Product eval
			10					
		50	Ingredient exercise					
1:30-4:30								Presentations
	30	Packaging	50	Breaded Products			300-430	
	10		10				chicken sausage	
	30	Deli	120	Breaded Products				
	10							
	60	FAL						
	40							

## Activities in PRL and Meat Lab

<b>Mon</b>	Harvest PRL		
<b>Tues</b>	Debone Meat lab		
<b>Weds</b>	Sticks Meat lab	Low pH, NaCl, cured→comminuted, thermal	
<b>Thurs</b>	Deli Meat lab	High pH, NaCl, phosphates, cured→inject/tumbled or comminuted/tumbled, thermal	
<b>Friday</b>	Breaded Meat lab	High pH, NaCl, phosphates, <b>uncured</b> →inject/tumbled or comminuted/tumbled, thermal	

We will not make pepperoni but that is a Low pH, NaCl, cured→comminuted, thermal

We will not make hot dogs but that is a High pH, NaCl, phosphates, cured→**emulsified**, thermal

## Activities in Food Applications Lab, FAL

<b>Mon</b> 230-430		Orientation Make low pH products may need additional time and equipment for thermal step	
<b>Tues</b> 330-430		Evaluate low pH products <a href="#"><i>Ideation for Ingredient selection in cooked sausage product (6-Teams)</i></a>	
<b>Weds</b> 230-430		Make high pH products may need additional time and equipment for thermal step	
<b>Thurs</b> 330-430		Evaluate high pH products <a href="#"><i>Document justification for ingredient selection</i></a>	
<b>Friday</b>	by 830am	Email <i>meat formulation with justification for each ingredient to:</i> <a href="mailto:button@wisc.edu">button@wisc.edu</a>	

Homeworks- hand out M, T, W, R, F (not graded, used to prepare for quizzes)

Quizzes- on Tues, Weds, Thurs, Friday, and 2nd Monday (8:30-8:50)

2<sup>nd</sup> Monday (hand-in individual paper) **2nd Thur, stuff out chicken sausage formulations**

**2<sup>nd</sup> Fri 2:00- 3:30 [pH, heat, score (yield+taste) team products] Give Team presentations.**

## EGGS SECTION

Monday May 20	Tuesday May 21	Wednesday May 22	Thursday May 23	Friday May 24
<b>MORNING</b>				
<b>Quiz 5</b> 8:30-9:15am  Meat Microbiology Egg Microbiology	Egg Microbiology Egg Regulations	<b>Exam 1</b> 8:30-9:15am  1. The Egg Industry 2. Formation of the Egg 3. Egg Composition 4. Egg Processing 5. Egg Grading 6. Egg Quality	1. Further Processing 2. Functionality a. Gelation b. Coagulation c. Foams d. Emulsions 3. Liquid and Dried Egg 4. Freezing 5. Specialty and Other	<b>Exam 2</b> 8:00-8:45:am  Field Trip
<b>AFTERNOON</b>				
<b>Microbiology Lab</b>  Hand-in Individual Reports	<b>Microbiology Lab</b>	Exterior and Interior Egg Quality	Foaming and Emulsions  <b>Make chicken sausage (teams)</b>	Evaluate sausages  Presentations  Gift Bags

### Labs in Room 257 of Meat Science Building

Lectures in Room 212 Animal Sciences

Meat Lab pilot plant

Meat Lab-Lecture room

## Textbooks

No text is required. The texts below are useful references.

- 1) The Science of Poultry and Meat Processing (Free Download) (Barbut, E-Book)
- 2) Egg Science and Technology (Stadelman and Cotterill, 1990)

## **Christie Kapsner-(GnP Regulations/HACCP at 1<sup>st</sup> Processing talk) 2015**

[https://mediaspace.wisc.edu/media/Christie+Kapsner+-+Processing+Food+Safety/0\\_m1k4r162](https://mediaspace.wisc.edu/media/Christie+Kapsner+-+Processing+Food+Safety/0_m1k4r162)

## **ACADEMIC INTEGRITY**

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to [studentconduct.wiscweb.wisc.edu/academic-integrity/](http://studentconduct.wiscweb.wisc.edu/academic-integrity/).

## **ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES**

**McBurney Disability Resource Center syllabus statement:** "The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform me of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. I will work either directly with you or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA."

## **DIVERSITY & INCLUSION**

**Institutional statement on diversity:** "Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world."