

FOS 4222L/5225C FOOD MICROBIOLOGY

SPRING SEMESTER, 2017

Location: FSHN Building, Room 310

Time: Monday and Wednesday; Period 6-8 (1:00-3:50- note time change)

Credits: 2

Course Instructor: Dr. Anita Wright, AFPL Bldg., Room 211, 392-294-3908

Email: acw@ufl.edu

Office Hours: Tuesday 10:00-12:00 or by appointment

Teaching Assistants: Alan Gutierrez alan.gutierrez@ufl.edu; Ying Fan yingfan@ufl.edu;

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Description: Food microbiology is one of the most exciting and rapidly developing fields within food science. The challenge of understanding foodborne pathogens is increasingly complex. Sources of contamination are ever changing and new food products and processes combined with novel food preferences, force food microbiologists have to keep up the technology. These laboratory exercises are designed to complement the material discussed in the lecture and are aimed at providing a hands on opportunity for the student to practice and observe the principles of food microbiology. Students will familiarize themselves with the techniques used to research, regulate, prevent and control the microorganisms found in food. Upon completion of this course, students will be able to:

- Name and recognize microorganisms commonly found in specific food products.
- Recognize specific types of microbial spoilage.
- Analyze different foods for hazardous microorganisms using selective media.
- Recognize the major pathogenic microorganisms based on morphology and physiology.
- Understand the consequences of improper food handling and storage.
- Identify desirable microorganisms and their role in preservation and fermentation.

Grading Scale: A=90-100, B+87-89, B=80-86, C+=77-79, C=70-76, D+=67-69, D=60-66

Course Requirements:

FOS 4222L:	<u>Percent of Grade</u>
Quizzes	10
Exam 1	25
Exam 2	25
Lab Notebooks	20
Presentation	20

FOS5225C:	<u>Percent of Grade</u>
Quizzes	10
Exam 1	25
Exam 2	25
Lab Notebooks	10
Presentation	10
Special Topic Report	20

Quizzes: Pre-LAB quizzes will be given before each lab. (**Helpful Hint: Answering the Study Questions will help you to prepare for the pre-quiz.**)

Exams: There will be 2 exams: a mid-term and a final. The mid-term will include a “practical” portion where you will be asked to demonstrate your microbiological skills. The final will be cumulative.

FOS 4222L FOOD MICROBIOLOGY LAB SCHEDULE SPRING 2017

Date	LECTURE TOPIC	Chapter	FOS4222L (M/W)
Jan 4	Introduction		Introduction
6	Physiology, Growth	1	
9	Indicator Organisms/HACCP	4, 42	1. Media
11	Spores	3	1. Media
13	Meat, Poultry, Seafood	6	
16	MLK Holiday		NO LAB
18	Milk /Dairy Products	7	2. Plate counts
20	Produce	8-9	
23	Preservation: Physical	29	3. Most Probable number
25	Preservation: Chemical/Biological	30-31	3. Most Probable number
27	REVIEW		
30	EXAM I		4. Fermentation
FEB 1	Fermented Foods	33-35	4. Fermentation
3	Beer/Wine	36-37	
6	Pathogenesis	Paper	5. Antimicrobials
8	Fungi, Algae, and Helminths	23; 26-27	5. Antimicrobials
10	Protozoa	28	
13	<i>Staphylococcus aureus</i>	21	Fermentation data
15	<i>Listeria monocytogenes</i>	20	LAB MIDTERM
17	<i>Bacillus</i> spp.	19	
20	<i>Clostridia</i> spp.	17-18	Lab Notebook Review
22	REVIEW		Lab Notebook Due
24	EXAM II		
27	<i>Salmonella enterica</i>	10	6. <i>Salmonella enterica</i>
MAR 1	<i>Escherichia coli</i>	12	6. <i>Salmonella enterica</i>
3	<i>Campylobacter</i> spp	11	
6-10	SPRING BREAK		NO LAB
13	<i>Cronobacter /Yersinia</i>	13-14	7. <i>Vibrio</i> spp.
15	<i>Shigella</i> spp.	15	7. <i>Vibrio</i> spp.
17	<i>Vibrios</i> spp.		
20	Viruses (Dr. Jones)	24-25	7. Isolation and Freezing
22	REVIEW		7. Isolation and Freezing
24	EXAM III		
27	Detection methods	39	8. Rapid Methods
29	Molecular Typing	43	8. Rapid Methods
31	Genomics	39	
APR 3	Risk Assessment (Dr. Danyluk)	42	9. PCR
5	Antibiotics (Dr. Yeong)	2	9. PCR
7	Epidemiology	41	
10	Emerging Interventions		Undergrad Presentations
12	Emerging Pathogens		Undergrad Presentations
14	REVIEW		
17	EXAM IV		Grad Presentations
19	FINAL Review Session		Lab Final
20			Lab Notebook Due
	FINAL (OPTIONAL)		Grad Report Due

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>.

Students with Disabilities Act:

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 Help 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/*
- Complaints: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf
- Online Course: <http://www.distance.ufl.edu/student-complaint-process>

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.