

FOS 4222/5225C FOOD MICROBIOLOGY SCHEDULE
Spring Semester, 2015
5th Period 11:45-12:35, Room: FAB103

INSTRUCTOR: Dr. Anita C. Wright

Room 214 Aquatic Food Products Building
Phone: 392-1991, Office: Ext. 311, Lab: Ext. 312
Email: acw@ufl.edu

Website: <http://fshn.ifas.ufl.edu/faculty/ACWright/FOS4222.html>

OFFICE HOURS: Monday 3:00 – 4:00 Tuesday 10:00-12:00

TEACHING ASSISTANTS: Lei Fang fl281218@ufl.edu

COURSE DESCRIPTION: The content of this course includes the fundamental aspects of microbiological contamination and control during harvesting, processing and storage of food; microbial food fermentation; ecology of food spoilage; pathogenesis and detection of foodborne pathogens. A separate lab (FOS4222L) is also taught concurrently with this course, but is generally only open to Food Science majors.

COURSE OBJECTIVES: Completion of this course will allow students to obtain the following skills:

1. The ability to accurately measure growth, survival, and death of microbes in food and water.
2. Understanding of the metabolic basis for food preservation and fermentation.
3. Recognizing the symptoms, epidemiology, and pathogenesis of foodborne infections.
4. Critical evaluation of methods for detection, enumeration, and control of foodborne pathogens.
5. Understanding the basic tenets behind Food Safety policy and applications to the food industry.

REQUIRED PREREQUISITES: MCB3020 AND MCB3020 Lab

RELATED COURSES: Microbiology, Biochemistry, Bacterial Genetics, Immunology, Food Fermentations, Microbial Ecology, Epidemiology, Parasitology, Virology

RECOMMENDED TEXT: Food Microbiology: Fundamentals and Frontiers. 4th edition. ASM Press 2007
Washington D.C

ATTENDANCE: REQUIRED

COURSE INFO: All class notes and information will be posted on Zakai at least 24h before class. Please use this resource as your primary mode of communication for this course.

FOS4222 GRADING: A=90-100, B+=87-89, B=80-86, C+=77-79, C=70-76, D+=67-69, D=60-66

Four tests and an OPTIONAL cumulative final exam will be given. Final Grade is based either on the average of four tests or on the average of four test and the optional final. Unannounced quizzes will be used to gauge attendance and enhance exam grades. You cannot drop a test.

FOS5225C Grading: Course material includes both FOS4222 and 4222L. Lecture grade is based on the same scale and criteria for FOS4222. Lab grade is determined by Quizzes (10%), Two exams (50%), notebook (20%), and a Presentation (20%). In addition to this material, graduate students provide mentoring for undergraduates in the lab and will also develop an individual project with the instructor for a written presentation. Final grades for the graduate course will be distributed as follows: Lecture grade (50%), Class participation (10%), Lab grade (30%), Presentation (10%).

MAKE UP TESTS: A doctor's note or pre-approval by instructor is required.

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Date	TOPIC	Chapter	FOS4222L (M/W)
JAN 7	Introduction		NO LAB
8	Physiology, Growth	1	Introduction
12	Spores	3	
14	Indicator Organisms/HACCP	4, 42	1. Disinfection
16	Meat, Poultry, Seafood	6	1. Disinfection
19	MLK Holiday		NO LAB
21	Milk /Dairy Products	7	
23	Produce	8-9	2. Media preparation
26	Fermented Dairy	32	
28	Fermented Foods	33-35	3. Enumeration-Plate count
30	Beer/Wine	36-37	3. Enumeration- Plate count
FEB 2	REVIEW		
4	EXAM I		4. Enumeration-DMC & MPN
6	Preservation: Physical	29	4. Enumeration-DMC & MPN
9	Preservation: Chemical/Biological	30-31	
11	Pathogenesis I	Review Paper	5. Fermentation
13	Mycotoxins and Helminths	23; 26-27	5. Fermentation
16	Protozoa	28	
18	<i>Staphylococcus aureus</i>	21	6. <i>Staphylococcus</i>
20	<i>Listeria monocytogenes</i>	20	6. <i>Staphylococcus</i>
23	<i>Bacillus</i> spp.	19	
25	<i>Clostridia</i> spp.	17-18	LAB MIDTERM
27	REVIEW		Lab Notebook review
28	EXAM II		
MAR 2-6	SPRING BREAK		NO LAB
9	<i>Salmonella enterica</i>	10	7. <i>Salmonella</i>
11	<i>Escherichia coli</i>	12	7. <i>Salmonella</i>
13	<i>Campylobacter</i> spp	11	
16	<i>Shigella</i> spp.	15	8. <i>E. coli</i>
18	<i>Cronobacter /Yersinia enterocolytica</i>	13-14	8. <i>E. coli</i>
20	<i>Vibrios</i> spp.	16	
23	Viruses/BSE	24-25	9. <i>Vibrio</i>
25	REVIEW		9. <i>Vibrio</i>
27	EXAM III		
30	Antibiotic Resistance	Yeong	10. PCR
APR 1	Genomics/Detection methods	39	10. PCR
3	Molecular Typing	43	
6	Epidemiology	44,47	11. ELISA
8	Interventions/Therapies		12. Typing Demo
10	Risk Assessment	Danyluk	Lab Notebook Due
13	Emerging Topics	Paper	Presentations
15	REVIEW		Presentations
17	EXAM IV	TBA	
20	FINAL Review Session		Lab Final
22	FINAL (OPTIONAL)		

ACADEMIC HONESTY: All students are expected to follow University guidelines for Academic Honesty. 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. In 1995 the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students. In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code. **The Honor Code: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.** On all work submitted for credit by students at the university, the following pledge is either required or implied: **“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”** The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior. Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court. (Source: 2007-2008 Undergraduate Catalog). It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor. This policy will be vigorously upheld at all times in this course.

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.

CAMPUS HELPING RESOURCES: Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university’s counseling resources. Both the Counseling Center and Student Mental Health Services provide 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. The Counseling Center is located at 301

Peabody Hall (next to Criser Hall). Student Mental Health Services is located on the second floor of the Student Health Care Center in the Infirmary.

- *University Counseling Center*, 301 Peabody Hall, 392-1575, www.counsel.ufl.edu
- *Career Resource Center*, CR-100 JWRU, 392-1602, www.crc.ufl.edu/
- *Student Mental Health Services*, Rm. 245 Student Health Care Center, 392-1171, www.shcc.ufl.edu/smhs/

Alcohol and Substance Abuse Program (ASAP)

Center for Sexual Assault / Abuse Recovery & Education (CARE)

Eating Disorders Program

Employee Assistance Program

Suicide Prevention Program

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. 0001 Reid Hall, 392-8565, www.dso.ufl.edu/drc/