

**FOOD MICROBIOLOGY – FS (MB) 405
SYLLABUS AND READING ASSIGNMENTS**

Fall 2006

Day & Date	#	Lecturer	Topic	Assignment
W-Aug. 23	1	LAJ	Course Structure and Expectations; Introduction to Food Microbiology	Chapt. 1
F-Aug. 25	2	LAJ	Foodborne microorganisms: bacteria (Gram + vs. Gram -); fungi; viruses; others (including toxins)	pp. 19-23 pp. 321-329
M-Aug. 28	3	LAJ	Microbial Succession; Intrinsic and extrinsic parameters; Environmental factors affecting growth (nutrients, competition, Eh, O ₂)	
W-Aug. 30	4	LAJ	Environmental factors affecting growth – Temperature [psychrotrophic, mesophilic, thermophilic organisms]	
F-Sept. 1	5	LAJ	Environmental factors affecting growth - pH [dominance by acidotrophic organisms]	
M-Sept. 4			NO CLASS-Labor Day Holiday	
W-Sept. 6	6	LAJ	Environmental factors affecting growth - a _w [osmotolerant organisms]	
F-Sept. 8	7	LAJ	Introduction to Preservation: Types, mechanisms	Chapt. 22 pp. 321-329
M-Sept. 11	8	LAJ	Types of food and spoilage: Complexity of microbial communities in raw products; Gram negative psychrotrophs (high nutrient, low barrier foods)	Chapt. 19
W-Sept. 13	9	LAJ	Types of food & spoilage: <i>Micrococcaceae</i> and <i>Staphylococcus</i> , lactic acid bacteria, yeasts and molds, (pasteurized and/or high barrier foods, reduced a _w reduced pH, cured foods); Hurdle Concept	
F-Sept. 15	10	LAJ	Discussion-Spoilage	
M-Sept. 18			EXAMI	
W-Sept. 20	11	TBD	Preservation and Control-Radiation (UV and	pp. 336-341

			Ionizing)	
Day & Date	#	Lecturer	Topic	Assignment
F-Sept. 22			No Class-LAJ out of town	
M-Sept. 25	12	LAJ	Sporulation & germination; <i>Bacillaceae</i> , <i>Clostridium</i>	Chapt. 3
W-Sept. 27	13	LAJ	Preservation and Control-Heat	pp. 329-336
F-Sept. 29	14	LAJ	Preservation and Control-Heat	
M-Oct 2	15	LAJ	Preservation and Control-Thermal Inactivation Practice Problems	
W-Oct. 4	16	LAJ	Commercial Sterility and Canned Food Spoilage LAST DAY TO DROP WITHOUT GRADE	
F-Oct. 6	17	TRK	Preservation and Control-Fermentation	Chapt. 18
M-Oct. 9	18	TRK	Preservation and Control-Fermentation	
W-Oct. 11	19	TRK	Lactic Acid Bacteria and Bacteriocins	Chapt. 23
F-Oct. 13			NO CLASS-Fall Break	
M-Oct. 16	20		Detection and Enumeration-Cultural Methods	pp. 11-17 Chapt. 4
W-Oct. 18			EXAM II	
F-Oct. 20	21	LAJ	Injury and VBNC	pp. 17-19
M-Oct. 23	22	LAJ	Microbiological Indicators	Chapt. 6
W-Oct. 25	23	LAJ	Classes of Foodborne Illness and Host Defenses	
F-Oct. 27	24	LAJ	<i>Salmonella</i>	Chapt. 7
M-Oct. 30	25	LAJ	<i>Salmonella</i> and <i>Listeria monocytogenes</i>	Chapt. 13
W-Nov 1	26	LAJ	<i>Listeria monocytogenes</i>	
F-Nov. 3	27	LAJ	Pathogenic <i>E. coli</i> strains including Enterohemorrhagic <i>E. coli</i>	Chapt. 9

M-Nov. 6	28	LAJ	Other Foodborne Infections: <i>Canpylobacter</i> , <i>Shigella</i> , <i>Yersinia enterocolitica</i>	Chapts. 8, 10, 11
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Day & Date	#	Lecturer	Topic	Assignment
W-Nov. 8	29	LAJ	Other foodborne infections: Vibrios and shellfish safety	Chapt. 12
F-Nov. 10	30	LAJ	Foodborne viruses	Chapt. 21
M-Nov. 13			EXAM III	
W-Nov. 15	31	LAJ	<i>Staphylococcus aureus</i> Foodborne Intoxications	Chapt. 14
F-Nov. 17	32	LAJ	<i>Clostridium botulinum</i> Foodborne Intoxications	Chapt. 15
M-Nov. 20	33	LAJ	Foodborne Toxicoinfections.	Chapters. 16, 17
W-Nov. 22			NO CLASS-Thanksgiving Holiday	
F-Nov. 24				
M-Nov. 27	34	LAJ		Emerging Pathogens
W-Nov. 29	35	LAJ	Pathogen Detection-Second Generation Methods (ELISA and hybridization)	Chapt. 5
F-Dec. 1	36	LAJ	Pathogen Detection-Second Generation Methods cont. (PCR)	
M-Dec 4	37	LAJ	Strain Typing Methods	
W-Dec. 6	38	LAJ	Ensuring Safe Food	Chapt. 25
F-Dec. 8	39	LAJ	Discussion of Food Safety from Farm-to-Fork	Chapt. 25
F-Dec. 15	8 – 11 a.m. – FINAL EXAM			