

**Jordan University of Science and Technology**  
**Faculty of Agriculture**  
**Department of Nutrition and Food Technology**  
**Semester 2007**

<b>Course Information</b>	
<b>Course Title</b>	Food Microbiology
<b>Course Number</b>	NF 377
<b>Prerequisites</b>	BIOL 331
<b>Course Website</b>	-
<b>Instructor</b>	Dr. Anas Al-Nabulsi
<b>Office Location</b>	C4L3
<b>Office Phone</b>	22270
<b>Office Hours</b>	-
<b>E-mail</b>	anas_nabulsi@just.edu.jo
<b>Teaching Assistant</b>	-
<b>Course Description</b>	
<p>This course is designed to introduce students to various aspects of food spoilage, safety and preservation as they pertain to the microbiology of bacteria, yeasts and molds. Conditions favoring the growth, survival and death of these microorganisms will be studied; their immediate and long range effects on foods will also be discussed.</p>	

<b>Text Book</b>	
<b>Title</b>	Modern Food Microbiology
<b>Author(s)</b>	J.M. Jay
<b>Publisher</b>	Aspen Publishers Inc
<b>Year</b>	
<b>Edition</b>	7th ed
<b>Book Website</b>	-
<b>References</b>	Food Microbiology: Fundamentals and Frontiers. 2nd ed. Doyle, M. P., Beuchat, R. L. and Montville, T. J. (eds) ASM Press, Washington, D.C. This is an excellent reference text for students wishing to continue in food microbiology.

<b>Assessment Policy</b>		
<b>Assessment Type</b>	<b>Expected Due Date</b>	<b>Weight</b>
<b>First Exam</b>		20
<b>Second Exam</b>		20
<b>Final Exam</b>		40
<b>Assignments</b>		12
<b>Presentation</b>		8

<b>Teaching &amp; Learning Methods</b>
PowerPoint presentation Lab

<b>Learning Outcomes:</b> Upon successful completion of this course, students will be able to	
Related Objective(s)	Reference(s)
1. Be familiar with the intrinsic/extrinsic conditions affecting the growth, survival and death of microorganisms in foods.	Chapter 2 and Handouts
2. Recognize names and taxonomy of important bacteria and have an understanding of their properties (environmental, biochemical, physiological) as they pertain to spoilage, safety and industrial importance.	
3. To understand advantages and disadvantages of different food preservation methods and their implications to microbial food safety and food quality.	

<b>Course Content</b>		
Week	Topics	Chapter in Text (handouts)
1	Introduction of the Course	
2+3	Factors affecting the growth, death and survival of microorganisms in foods (Intrinsic factors)	
4+5	Factors affecting the growth, death and survival of microorganisms in foods (Extrinsic factors )	
6+7	Microbial spoilage of food	
8+9	Gram- negative foodborne pathogenic bacteria	
10+11	Gram- positive foodborne pathogenic bacteria	
12+13	Chemical methods of food preservation	
13+14	Physical methods of food preservation	
15	Biopreservation technology	
16	Hurdle Technology of food preservation	

### Additional Notes

<b>Assignments</b>	Laboratory reports must be handed in (7 %). See the laboratory manual for additional information. In addition, the laboratory assignments must be handed in (5 %).
<b>Exams</b>	Late LAB reports or assignments will not be accepted unless instructor approval is obtained in advance of the deadline
<b>Cheating</b>	Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious academic penalty. Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials into the exam room (e.g., crib notes, pagers or cell phones). Exam cheating can also include exam impersonation. A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty.
<b>Attendance</b>	Consistent with Jordan University of Science and Technology guidelines, students absent from regularly scheduled examinations because of authorized University activities will have the opportunity to take them at an alternate time. No make-up exams will be given for unexcused absences.
<b>Laboratory</b>	Laboratory reports must be handed in (7 %). See the laboratory manual for additional information. In addition, the laboratory assignments must be handed in (5 %).