

**Syllabus: Food Microbiology (140502332)****Second Semester 2023 /2024**

COURSE INFORMATION		
<b>Course Name:</b> Food Microbiology <b>Semester:</b> Second 2021/2022 <b>Department:</b> Clinical Nutrition and Dietetics Sciences <b>Faculty:</b> Applied Medical Sciences		<b>Course Code:</b> 140502332 <b>Section:</b> <b>Core Curriculum:</b>
<b>Day(s) and Time(s):</b> Sunday, Tuesday: 13:00-14:00 <b>Classroom:</b> Building of Medical Schools 204		<b>Credit Hours:</b> 2 <b>Prerequisites:</b> Medical Microbiology
COURSE DESCRIPTION		
<p>This course is a basic course in microbiology. It will cover some basic principles related to microbial physiology, microbial classification, food borne pathogenic and spoilage microorganisms with emphasis on the emerging food borne pathogens. Some fundamental food processing and preservation methods related to controlling microorganisms in food will be discussed. Factors affecting microbial growth and mechanisms of food spoilage will be illustrated. Additionally, most common food borne poisoning and food borne outbreaks will be elucidated. The principles of hazard analysis critical control point (HACCP) system and its importance in reducing the prevalence of food borne poisoning will also be discussed.</p>		
DELIVERY METHODS		
<p>The course will be delivered through a combination of active learning strategies. These will include:</p> <ul style="list-style-type: none"> <li>• PowerPoint lectures and active classroom based discussion</li> <li>• Collaborative learning through small groups acting in an interdisciplinary context.</li> </ul>		
FACULTY INFORMATION		
<b>Name</b>	Dr. Amin Olaimat	
<b>Academic Title:</b>	Associate professor	
<b>Office Location:</b>	Department of clinical nutrition and dietetics	
<b>Telephone Number:</b>		
<b>Email Address:</b>	<a href="mailto:aminolaimat@hu.edu.jo">aminolaimat@hu.edu.jo</a>	

<b>Office Hours:</b>	<b>Sunday, Tuesday, Wednesday 12-1 pm</b>  <i>Please send an e-mail us to meet at any other time.</i>
<b>REFERENCES AND LEARNING RESOURCES</b>	
<b>Required Textbook:</b> <ol style="list-style-type: none"> <li>1. Adams, M.R. and Moss, M.O.2008. <i>Food Microbiology</i>, 2<sup>nd</sup> edition. Royal Society of Chemistry, UK.</li> <li>2. Jay, J.M. 2005. <i>Modern Food Microbiology</i>. Aspen Publishers, Inc. Gaithersburg, Maryland.</li> </ol> <b>Suggested Additional Resources:</b> <ol style="list-style-type: none"> <li>1. Ray, B., and Bhunia, A.K. 2014. <i>Fundamental Food Microbiology</i>, 7th Edition, CRC Press (Taylor and. Francis group), Boca Raton, FL, USA.</li> </ol> <b>Useful Web Resources:</b> <a href="http://www.cdc.gov">http://www.cdc.gov</a> ; <a href="http://www.fda.gov">http://www.fda.gov</a>	

### COURSE LEARNING OUTCOMES

Number	Outcomes	Corresponding Program outcomes
<b>Knowledge</b>		
<b>LO1</b>	Understand the fundamental of food microbiology	<b>PLO1</b>
<b>LO2</b>	Understand the taxonomy and classification of microorganisms	<b>PLO1</b>
<b>LO3</b>	Understand the effect and significance of the presence and the growth of microorganisms in foods.	<b>PLO1</b>
<b>LO4</b>	Understand the factors affecting growth of microorganisms.	<b>PLO1</b>
<b>LO5</b>	Realize the importance of traditional and modern food preservation methods in preventing and inhibiting foodborne pathogens and spoilage microorganisms in foods.	<b>PLO3</b>
<b>LO6</b>	Be aware of major spoilage microorganisms and foodborne pathogens.	<b>PLO3</b>
<b>LO7</b>	Be aware of major benefits and application of probiotics in food system	
<b>LO8</b>	Understand the basis of isolation and enumeration techniques.	<b>PLO4</b>

<b>LO9</b>	Understand the HACCP and ISO 22000 principles	<b>PLO5</b>
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### STUDENT LEARNING OUTCOMES MATRIX\*

Number	Learning Outcomes	Learning Method*	Assessment Method**
<b>LO1</b>	Understand the effect and significance of the presence and the growth of microorganisms in foods.	Lecture	<b>Exam</b>
<b>LO2</b>	Understand why certain microorganisms are commonly associated with certain food types.	Lecture	<b>Exam</b>
<b>LO3</b>	Realize the importance of food preservation in preventing and inhibiting pathogens and spoilage microorganisms growth in foods.	Lecture	<b>Exam</b>
<b>LO4</b>	Be aware of major microbes involved in foodborne illness.	Lecture	<b>Exam</b>
<b>LO5</b>	Understand the basis of isolation and enumeration techniques.	Lecture	<b>Exam</b>
<b>LO6</b>	Comprehend the principles of Hazard Analysis of Critical Control Point System concept and relate it to a variety of food systems.	Lecture	<b>Exam</b>

### ACADEMIC SUPPORT

The Hashemite University policy is to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their Instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

#### **Special Needs Section:**

**Tel:**

**Location:**

**Email:**

### COURSE REGULATIONS

#### ***Participation***

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance.* It is a student's responsibility to monitor the frequency of their own absences.

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

### ***Plagiarism***

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of the Hashemite University.

Plagiarism includes the following examples and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**
- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

**The instructor has the right to fail the coursework or deduct marks where plagiarism is detected**

### ***Late or Missed Assignments***

In all cases of assessment, students who fails to attend an exam, class project or deliver a presentation on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a fail grade for this part of the assessment.

- Submitting a term paper on time is a key part of the assessment process. Students who fail to submit their work by the deadline specified will automatically receive a 10% penalty. Assignments handed in more than 24 hours late will receive a further 10% penalty. Each subsequent 24 hours will result in a further 10% penalty.
- In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with University regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

### ***Student Complaints Policy***

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

## **COURSE ASSESSMENT**

### ***Course Calendar and Assessment***

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

Assessment	Grade Weighting	Deadline Assessment
Exam 1	30%	10/04/2022
Exam 1	30%	15/05/2022
Final Exam (3)	40%	

### **Description of Exams**

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. Exam will consist of a combination of multiple choice, short answer, match, true and false and/or descriptive questions.

**Homework:** Will be given for each chapter, while the chapter in progress you are supposed to work on them continuously and submit in next lecture when I finish the chapter.

You are also expected to work on in-chapter examples, self-tests and representative number of end of chapter problems. The answers of self-tests and end of chapter exercises are given at the end of the book.

**Quizzes:** Unannounced quizzes will be given during or/and at the end of each chapter based upon the previous lectures. It will enforce that you come prepared to the class.

No make-up exams, homework or quizzes will be given. Only documented absences will be considered as per HU guidelines.

Grades are not negotiable and are awarded according to the following criteria\*:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50

B+	Very Good	3.25
B		3.00
B-		2.75
C+	Pass	2.50
C	Pass	2.25
C-	Fail	2.00

### Classroom Participation: Oral Presentation

Element	Excellent		Satisfactory			Needs Improvement				s c o r e
	8	7	6	5	4	3	2	1	0	
<b>Organiz ation</b>	<ul style="list-style-type: none"> <li>There is a logical sequence of information.</li> <li>Title slide and closing slide are included appropriately.</li> </ul>		<ul style="list-style-type: none"> <li>There is some logical sequence of information.</li> <li>Title slide and closing slides are included.</li> </ul>			<ul style="list-style-type: none"> <li>There is little or no logical sequence of information.</li> <li>Title slide and/ or closing slides are not included.</li> </ul>				
<b>Slide Design</b> (text, colors, background, illustrations, size, titles, subtitles)	Presentation is attractive and appealing to viewers.		Presentation is somewhat appealing to viewers.			Little to no attempt has been made to make presentation appealing to viewers.				
<b>Content</b>	<ul style="list-style-type: none"> <li>Presentation covers topic completely and in depth.</li> <li>Information is clear, appropriate, and accurate.</li> </ul>		<ul style="list-style-type: none"> <li>Presentation includes some essential information.</li> <li>Some information is somewhat confusing, incorrect, or flawed.</li> </ul>			<ul style="list-style-type: none"> <li>Presentation includes little essential information.</li> <li>Information is confusing, inaccurate, or flawed.</li> </ul>				
<b>Languag e</b>	<ul style="list-style-type: none"> <li>Spelling, grammar, usage, and punctuation are accurate.</li> <li>Fluent and effective</li> </ul>		There are minor problems in spelling, grammar, usage, and/or punctuation.			<ul style="list-style-type: none"> <li>There are persistent errors in spelling, grammar, usage, and/or punctuation.</li> <li>Less or not fluent and effective.</li> </ul>				
<b>Delivery</b>	<ul style="list-style-type: none"> <li>Ideas were communicated with enthusiasm, proper voice projection and clear delivery.</li> <li>There was sufficient eye contact with audience.</li> <li>There were sufficient use of other non-verbal communication skills.</li> <li>Appropriate delivery pace was used.</li> </ul>		<ul style="list-style-type: none"> <li>There was some difficulty communicating ideas due to voice projection, lack of preparation, incomplete work, and/or insufficient eye contact.</li> <li>Insufficient use of non-verbal communication skills.</li> <li>Delivery pace is somewhat appropriate.</li> </ul>			<ul style="list-style-type: none"> <li>There was great difficulty communicating ideas due to poor voice projection, lack of preparation, incomplete work, and/or little or no eye contact.</li> <li>No use of non verbal communication skills.</li> <li>Inappropriate delivery pace was used.</li> </ul>				
<b>Interaction with Audience</b>	<ul style="list-style-type: none"> <li>Answers to questions are coherent and complete.</li> <li>Answers demonstrate confidence and extensive knowledge.</li> </ul>		Most answers to questions are coherent and complete.			Answers to questions are neither coherent nor complete.				

		<ul style="list-style-type: none"><li>▪ Answers somehow demonstrate confidence and extensive knowledge.</li></ul>	<ul style="list-style-type: none"><li>▪ Is tentative or unclear in responses.</li></ul>	
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