الجامعـــــــــة
الهاشميـــــــــة

The Hashemite University

كلية العلوم الطبية التطبيقية

Faculty of Applied Medical Sciences

Syllabus: Evolution of Pathogenic food microbes (2105021742)
First Semester 2022 /2023

COURSE INFORMATION	
Course Name: Emerging and Evolving Foodborne Pathogens **Semester**: First Semester 2022 /2023 **Department:** Clinical Nutrition and Dietetics Sciences **Faculty:** Applied Medical Sciences	**Course Code: 2105021742** **Section:** **Core Curriculum**:
9:00-12:00 Monday: **Day(s) and Time(s):** **Classroom:**	3 **Credit Hours:** **Prerequisites**: None

COURSE DESCRIPTION

Today, the evolving, emerging and re-emerging foodborne pathogens on a worldwide basis is growing increasingly complex with the many emerging social, political and demographic changes in the population, as well as dynamic changes in animal and vector populations and the environment. As a result, the rapidly growing problem of foodborne infections requires new and creative means for prevention and control because these diseases have the potential to greatly impact the social, political and economic stability of country, region or even the world. The course covers incidence, trends, epidemiology, nature of illness, growth characteristics and current detection, prevention and control methods of emerging foodborne pathogens (bacteria and their toxins, viruses, and parasites). Outbreaks of recent foodborne illness and their investigations will be discussed. Factors influencing the emergence and evolution of foodborne pathogens will also be discussed.

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies. These will include:

- PowerPoint lectures and active classroom based discussion
- Collaborative learning through small groups acting in an interdisciplinary context.
- Tutorial sessions through engaging students in learning activities including analyzing results in the published articles or engaging in technical skills development.
- Seminars by students who will take a leading role in the delivering a presentation, presenting a paper or discussing an idea.

FACULTY INFORMATION

Name	**Dr. Amin Olaimat**
Academic Title:	**Professor**
Office Location:	**Department of clinical nutrition and dietetics**
Telephone Number:	
Email Address:	*aminolaimat@hu.edu.jo*
Office Hours:	Sunday, Tuesday: 10-11, Monday 12-1 pm *Please send an e-mail us to meet at any other time.*

REFERENCES AND LEARNING RESOURCES

Required Textbook:

1. Ray, B., and Bhunia, A.K. 2014. *Fundamental Food Microbiology*, 5th Edition, CRC Press (Taylor and. Francis group), Boca Raton, FL, USA.
2. IOM (Institute of Medicine). 2012. *Improving food safety through a One Health approach*. Washington, DC: The National Academies Press.

Suggested Additional Resources:

Selected review articles and websites will be provided.

Useful Web Resources: http://www.cdc.gov; http://www.fda.gov

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:

Core Curriculum Learning Outcomes	Program Learning Outcomes	Course Objectives	Course Student Learning Outcomes	Assessm Metho
To promote independent creative problem-solving in the context of nutritional issues.	(KP1) Possess advanced and up-to-date information in the fields of therapeutic nutrition, diets, and food safety, according to the latest developments in scientific research.	To provide a comprehensive understanding of key foodborne pathogens and their public health impact. .1 To equip students with skills to evaluate pathogenic risks in food production. .2 To examine and assess current surveillance and detection techniques for foodborne pathogens. .3 To enable students to monitor and analyze emerging foodborne diseases and their public health implications. .4 To explore the factors influencing the emergence and evolution of foodborne pathogens, including environmental, genetic, and technological aspects. .5 To foster an extensive knowledge base and critical understanding of emerging foodborne pathogens and their potential threats. .6 To develop students' ability to evaluate current foodborne pathogens and predict future trends in pathogen evolution and emergence. .7 To cultivate critical thinking, independent problem-solving skills, and .8	CLO1: Describe major food-borne pathogens CLO2: Assess the pathogenic microorganisms risk in food production CLO3: Explain and evaluate currently available detection and surveillance processes for foodborne pathogens CLO4: Monitor and analyze emerging foodborne diseases CLO5: Study the factors influencing the emergence and evolution of foodborne pathogens CLO6: Enabling students to explore and extend an extensive knowledge base and critical indebtedness of the emerging foodborne pathogens.	EX
	(KP2) Familiarity with advanced scientific research methodologies and creativity strategies.			
To review the scientific literature on therapeutic nutrition and food safety for practicing scientific writing.	(KP3) Demonstrate advanced knowledge of food safety principles and their application in managing foodborne diseases.			TERM PA
	(KP4) The ability to think critically in the field of therapeutic nutrition and food safety			
To prepare and support researchers who work on chronic illness prevention and treatment.	(SP1): Apply evidence-based nutrition and food safety information to resolve issues and apply advanced and integrated knowledge of food safety and nutrition-related health issues.			
To establish reputable nutrition departments in hospitals and other healthcare facilities.	(SP2): Design and implement innovative approaches for product development, quality control, and biological safety in food production			EX
	(SP3): Identify appropriate research methodology to evaluate food safety and nutrition-related medical issues.			ASSIGNM
To enhance experts and researchers in therapeutic nutrition and food safety for various academic institutions, research centers, and food plants.	(SP4): Write a professional and polished scientific report on therapeutic nutrition and food safety using appropriate mathematical/statistical techniques to analyze research problems.			
	(CP1): Continuous self-learning, self-assessment, and the ability to deal with and solve problems of a high degree of difficulty.			
	(CP2): Maintain ethical standards and best practices in research, product development, and public health initiatives related to nutrition and food safety.			
To help enhance food producers with experts in the field of product development, quality control, and biological safety.	(CP3): Demonstrate a high level of work ethic reflective of responsibility/commitment towards service to society based on validated study methodology for community-based nutritional status assessment.			EX

To disseminate food safety and nutrition-related information through various tools, such as public and private business, marketing, and social media.	(CP4): Lead research and multidisciplinary projects on medical nutritional therapy and food safety, work within a team, evaluate its performance and contribute to professional knowledge. (CP5): Establish and manage reliable nutrition and food safety programs in health facilities, public health organizations, and the food industry.	effective communication of complex ideas to diverse audiences within the field of food safety.	CLO7: Enabling students to apply the principles of evaluate currently available pathogens and the expected evolving pathogens in the future. CLO8: Provide students with a learning environment to achieve critical thinking and independence of thought, and communication of complex ideas to a range of audiences.	

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%	May 4th
Term paper and Seminar	30%	May 30th
Final Exam (3)	40%	Week 16

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**				
	8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	
Organization	▪ There is a logical sequence of information. ▪ Title slide and closing slide are included appropriately.		▪ There is some logical sequence of information. ▪ Title slide and closing slides are included.			▪ There is little or no logical sequence of information. ▪ Title slide and/ or closing slides are not included.				
Slide Design (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.				

Content	▪ Presentation covers topic completely and in depth. ▪ Information is clear, appropriate, and accurate.	▪ Presentation includes some essential information. ▪ Some information is somewhat confusing, incorrect, or flawed.	▪ Presentation includes little essential information. ▪ Information is confusing, inaccurate, or flawed.	
Language	▪ Spelling, grammar, usage, and punctuation are accurate. ▪ Fluent and effective	There are minor problems in spelling, grammar, usage, and/or punctuation.	▪ There are persistent errors in spelling, grammar, usage, and/or punctuation. ▪ Less or not fluent and effective.	
Delivery	▪ Ideas were communicated with enthusiasm, proper voice projection and clear delivery. ▪ There was sufficient eye contact with audience. ▪ There were sufficient use of other non-verbal communication skills. ▪ Appropriate delivery pace was used.	▪ There was some difficulty communicating ideas due to voice projection, lack of preparation, incomplete work, and/or insufficient eye contact. ▪ Insufficient use of non-verbal communication skills. ▪ Delivery pace is somewhat appropriate.	▪ There was great difficulty communicating ideas due to poor voice projection, lack of preparation, incomplete work, and/or little or no eye contact. ▪ No use of non verbal communication skills. ▪ Inappropriate delivery pace was used.	
Interaction with Audience	▪ Answers to questions are coherent and complete. ▪ Answers demonstrate confidence and extensive knowledge.	▪ Most answers to questions are coherent and complete. ▪ Answers somehow demonstrate confidence and extensive knowledge.	▪ Answers to questions are neither coherent nor complete. ▪ Is tentative or unclear in responses.	