The Hashemite University

الجامعـــــة الهاشميـــــة

Deanship of Academic Development
and International Outreach

عمادة التطوير الأكاديمي
والتواصل الدولي

Syllabus: Developing Healthy Food products (2105021731)

Second Semester 2024 /2025

COURSE INFORMATION	
Course Name: Developing Healthy Food products **Semester**: Second 2024/2025 **Department:** Clinical Nutrition and Dietetics Sciences **Faculty:** Applied Medical Sciences	**Course Code: 2105021731** **Section: 1** **Core Curriculum:**
Day(s) and Time(s): Sunday: 13:00-16:00 **Classroom:** Building of Medical Schools 311	**Credit Hours:** 3 **Prerequisites**: None

COURSE DESCRIPTION

An advanced level study of new food products concerning history, basics, and criteria used, driving forces and stages of development, ingredient function, and section, the role of sensory analysis, consumer satisfaction and quality motivation in product development, roles of packaging and preservation in marketing and innovation. The course includes case studies of important success stories in new food development.

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.
- Relevant films and documentaries
- Video lectures
- Class Discussion.
- Writing reviews and reports.

FACULTY INFORMATION

Name	**Dr. Buthaina Alkhatib**
Academic Title:	**Associate professor**
Office Location:	**Medical complex, 1st floor**
Telephone Number:	
Email Address:	**bkhtib@hu.edu.jo**
Office Hours:	**Mon- Thu.: 10.00:00 to 11:00** ***Please send an e-mail to us for a meeting at any other time.***

REFERENCES AND LEARNING RESOURCES

Required Textbook; assigned reading and audio-visuals:

1-Beckley, Jacqueline H.; Foley, M. Michele; Topp, Elizabeth J.; Huang, J.C.; Prinyawiwatkul, Witoon . 2007. Accelerating New Food Product Design and Development. John Wiley & Sons. Ames, Iowa. USA.

2-Mary D. Earle and Richard L. Earle.2009. Creating New Foods. The Product Developer's Guide, the Web Edition The New Zealand Institute of Food Science & Technology. Willington, New Zealand.

Electronic resources:

1. FDA's Nutrition Initiatives
https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/fdas-nutrition-initiatives

2. Innovation in Healthy and Sustainable Food Product Development for Aged Care
https://www.mdpi.com/2304-8158/11/22/3604

3. Role of Food Extrusion in Development of Healthy Food Products
https://actascientific.com/ASNH/pdf/ASNH-SI-01-0010.pdf

4. Trends in the Design of Functional Foods for Human Health
https://www.frontiersin.org/research-topics/46318/trends-in-the-design-of-functional-foods-for-human-health

5. The Development of New Functional Foods and Ingredients
https://www.mdpi.com/2304-8158/13/19/3038

ACADEMIC SUPPORT

It is The Hashemite University's policy 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 Needs section will exert all efforts to accommodate for individual's needs.

Special Needs Section:
Tel:
Location:
Email:

STUDENT LEARNING OUTCOMES MATRIX*

Core Curriculum Learning Outcomes	Program Learning Outcomes	Course Objectives	Course Student LOs	Assessment Method
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.	- Understand the driving forces of new product development. - Describe the role ingredients play in the development of new products. - List down the stages followed in product development. - Understand the strategies of new product development - Distinguish between a meaningful and an ordinary brand.	Lecture	Assignment
	(KP2) Familiarity with advanced scientific research methodologies and creativity strategies.			
To review the scientific literature on therapeutic nutrition and food safety to practice scientific writing.	(KP3) Demonstrate advanced knowledge of food safety principles and their application in managing foodborne diseases.		Flipped class	Quizzes
	(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		Lecture	Exam
	(SP3): Identify appropriate research methodology to evaluate food safety and nutrition-related medical issues.		Lecture	Assignment
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.	- Apply the principles of sensory analysis and statistics to the development of new products. - Apply statistical methods to new products. - Design an experiment and analyze its results. - Conduct research in new product development	Presentations	Term paper
	(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.			
To disseminate food safety and nutrition-related information through a variety of 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.			

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. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

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 offense 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 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 fail 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
Mid-term Exam	30%	
Term paper and Seminar	30%	
Final Exam	40%	

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

WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION			
Week	**Topic**	**CLOs**	**Assessment**
1	Introduction to Product Development, How Did the Food Industry Get (from There) to Here?	CLO1	Exam
2	The Product Development Project in the Company, Understanding Product Development in Today's Food Industry	CLO1	Exam
3	The Organization of the Product Development Project.	CLO2	Assignment
4	Product Strategy Development Idea Generation and Screening	CLO2	Report
5	Developing Partnerships: Using Outside Resources for Product Development	CLO3	Exam
6	Building Superior R&D Organizations 41 Control.	CLO3	Assignment
7	Commercial Enzyme Production	CLO4	Presentation
8	A Supplier Perspective: Superior Services and Products Help Change Happen	CLO5	Term paper
9	Brands: A Discussion on the Difference Between Creating Good Brands and Meaningful Brands	CLO6	Exam
10	Category Appraisal and Ingredient Search: Identifying Key Sensory Factors and Product Features at the Early Development Stage	CLO7	Assignment
11	Market Forces: The PushPull of Marketing and Advertising in the New Product Business	CLO8	Quiz
12	Speed Bump or Opportunity: Innovative Packaging and Its Impact on Accelerated Product Development Time	CLO9	Term paper
13	Identifying Critical Steps in the New Product Development Process	CLO9	Assignment
14	Statistical Design: Experimental Units and Proper Designs Applications of Discriminant and Logistic Regression Analysis for Consumer Acceptance and Consumer-Oriented Product Optimization Study	CLO9	Exam

Assessment Rubrics

Classroom Participation: Assessment Criteria					
Criteria	**Quality**				**Score**
	Excellent (4 points)	**Good (3 points)**	**Satisfactory (2 points)**	**Needs Improvement (1 points)**	
The degree to which student integrates course readings into classroom participation	- often cites from readings; - uses readings to support points; - often articulates "fit" of readings with topic at hand.	-occasionally cites from readings; - sometimes uses readings to support points; -occasionally articulates "fit" of readings with topic at hand **.**	-rarely able to cite from readings; - rarely uses readings to support points; - rarely articulates "fit" of readings with topic at hand	-unable to cite from readings; -cannot use readings to support points; cannot articulates "fit" of readings with topic at hand .	
Interaction/ participation in classroom discussions	-always a willing participant, responds frequently to questions; - routinely volunteers point of view .	-often a willing participant, - responds occasionally to questions; - occasionally volunteers point of view .	-rarely a willing participant, - rarely able to respond to questions; - rarely volunteers point of view .	-never a willing participant., - never able to respond to questions; - never volunteers point of view .	
Interaction/ participation in classroom learning activities	-always a willing participant; -acts appropriately during all role plays; - responds frequently to questions; - routinely volunteers point of view.	-often a willing participant; -acts appropriately during role plays; - responds occasionally to questions; -occasionally volunteers point of view.	-rarely a willing participant. -occasionally acts inappropriately during role plays; - rarely able to respond to direct questions; -rarely volunteers point of view .	-never a willing participant - often acts inappropriately during role plays;, - never able to respond to direct questions; - never volunteers point of view.	
Demonstration of professional attitude and demeanor	-always demonstrates commitment through thorough preparation; - always arrives on time; - often solicits instructors' perspective outside class.	- rarely unprepared; rarely arrives late; - occasionally solicits instructors' perspective outside class **.**	-often unprepared; occasionally arrives late; - rarely solicits instructors' perspective outside class .	-rarely prepared; - often arrives late; -never solicits instructors' perspective outside class	

Classroom Participation: Oral Presentation										
Element	**Excellent**		**Satisfactory**			**Needs Improvement**				***s c o r e***
	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.				
Total score	***= (y*5/16)***									