

Course Syllabus

1	Course title	Dairy Science and Technology
2	Course number	0603441
3	Credit hours (theory, practical)	(2,1)
	Contact hours (theory, practical)	(2,3)
4	Prerequisites/corequisites	Non
5	Program title	BSc. Food Science and Technology
6	Program code	042
7	Awarding institution	The University of Jordan
8	School	Agriculture
9	Department	Nutrition and Food Technology
10	Level of course	BSc, undergraduate
11	Year of study and semester (s)	First semester 2020-2021
12	Final Qualification	Grade based
13	Other department (s) involved in teaching the course	Non
14	Language of Instruction	English
15	Date of production/revision	Each year

16. Course Coordinator:

Name: Malik Hadaddin
Office number: 160-Ground Floor
Phone number: 0795245862
Email: m.haddadin@ju.edu.jo

17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.
Non

18. Course Description:

Milk Composition and physical, chemical, and sensory properties of milk; microflora of milk; liquid milk processing; cream and butter production; starter culture technology as well as processing of milk powder, ice cream, evaporated milk, cheese and processed cheese.

19. Course aims and outcomes:

A- Aims:

- 1- Outline significance of milk and dairy products in foods.
- 2- Understanding and practice physical, chemical and microbiological testing of milk and dairy products.
- 3- Recognizing microorganisms that involved in dairy processing and technology.
- 4- Understanding processing and technological aspects of different dairy products.
- 5- Practice processing and testing of different dairy products.

A. Knowledge and Understanding: Student is expected to

A1- Identify dairy products as one of the most importance foods.

A2- Recognize important factors affecting food quality and safety.

A3- In case study for each of dairy product.

A4- Understand factors that may affect quality of the dairy products.

A5- Understand and practise processing steps involved in different dairy products.

A6- Conduct different tests for dairy and related products.

B. Intellectual Analytical and Cognitive Skills: Student is expected to

B1- Learn how to control quality and safety of dairy products.

B2- How to benefit from different aspect of dairy products in food industry.

B3- How to deal with different dairy products infected by different microorganisms.

C. Subject-Specific Skills: Student is expected to

C1- Identify methods control and preserve quality and safety of dairy products.

C2- Identify microbial flora and chemical composition importance to selected dairy products.

C3- In case study of different dairy products and quality and safety aspects.

C4- Differentiate between good (processing) and bad (spoilage and pathogenic) dairy related microorganisms.

D. Transferable Key Skills: Students is expected to

D1- Acquire skills needed in dairy laboratory for testing relevant to dairy quality and safety.

20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Introduction for Dairy Science and Technology.	1	Dr. Malik Hadaddin	A1-A2	Quiz + exam + assignment	Robinson and Moss. 2002
Milk quality and safety issue	1	Dr. Malik Hadaddin	A1-A3	Quiz + exam + assignment	Robinson and Moss. 2002
Milk quality and safety issue	2	Dr. Malik Hadaddin	A3-A5	Quiz + exam + assignment	Conto et al., 2018.
Milk quality and safety issue	2	Dr. Malik Hadaddin	A2-A6	Quiz + exam + assignment	Conto et al., 2018.
Butter processing and technology	3	Dr. Malik Hadaddin	A3-A6	Quiz + exam + assignment	Conto et al., 2018.
Butter processing and technology	3	Dr. Malik Hadaddin	A4-A5	Quiz + exam + assignment	Conto et al., 2018.
Quiz 1					
Cheese processing and technology	4	Dr. Malik Hadaddin	C2-C3	Quiz + exam + assignment	Robinson and Moss. 2002
Cheese processing and technology	5	Dr. Malik Hadaddin	C1-C3	Quiz + exam + assignment	Robinson and Moss. 2002
Cheese processing and technology	5	Dr. Malik Hadaddin	C1-C3	Quiz + exam + assignment	Robinson and Moss. 2002
Midterm exam	6				
Acidified milk products processing and technology	6	Dr. Malik Hadaddin	A3-A5	Quiz + exam + assignment	Nout. and Sarkar, 2016
Acidified milk products processing and technology	7	Dr. Malik Hadaddin	A5-A6	Quiz + exam + assignment	Nout. and Sarkar, 2016
Acidified milk products processing and technology	7	Dr. Malik Hadaddin	A5-A6, C1-C4	Quiz + exam + assignment	Fuquay et al., 2011
Acidified milk products processing and technology	8	Dr. Malik Hadaddin	A4-A6, C2-C3	Quiz + exam + assignment	Fuquay et al., 2011
Theory midterm	8	Dr. Malik Hadaddin	A1-A4, C1-C3	Quiz + exam + assignment	Fuquay et al., 2011

Long life product	9	Dr. Malik Hadaddin	A1-A5, C2-C3	Quiz + exam + assignment	Nout. and Sarkar, 2016
Long life product	9	Dr. Malik Hadaddin	A3-A5, C1-C3	Quiz + exam + assignment	Nout. and Sarkar, 2016
Long life product	10	Dr. Malik Hadaddin	A4-A6, C2-C3	Quiz + exam + assignment	Nout. and Sarkar, 2016
Microbiology of selected commodities	10	Dr. Malik Hadaddin	C2-C3	Quiz + exam + assignment	--
Microbiology of selected commodities	11	Dr. Malik Hadaddin	C2-C3	Quiz + exam + assignment	--
Food fermentations and introduction to dairy biotechnology	11	Dr. Malik Hadaddin	C1-C3	Quiz + exam + assignment	--
Food fermentations and introduction to dairy biotechnology	12	Dr. Malik Hadaddin	C1-C3	Quiz + exam + assignment	--
Quiz 2	12	Dr. Malik Hadaddin	C1-C3	Quiz + exam + assignment	--

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:
Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc.

ILO/s	Learning Method
A. Knowledge and Understanding (A1-A..)	Quiz + exam + assignment
B. Intellectual Analytical and Cognitive Skills (B1-B..)	Quiz + exam + assignment
C. Subject Specific Skills (C1-C....)	Quiz + exam + assignment
D. Transferable Key Skills (D1-D3...)	Quiz + exam + assignment

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

ILO/s	Evaluation Method
A. Knowledge and Understanding (A1-A..)	Quiz + exam + assignment
B. Intellectual Analytical and Cognitive Skills (B1-B..)	Quiz + exam + assignment
C. Subject Specific Skills (C1-C....)	Quiz + exam + assignment
D. Transferable Key Skills (D1-D3...)	Quiz + exam + assignment

23. Course Policies:

A- Attendance policies:

In case if the absence exceeded 15%, the student will automatically will fail the course.

B- Absences from exams and handing in assignments on time:

Makeup exam will be assigned. Postponing the assignment delivery time could not be provided.

C- Health and safety procedures:

Are instructed from the beginning of the course.

D- Honesty policy regarding cheating, plagiarism, misbehaviour:

Withdrawal of the exam

E- Grading policy:

It is given to the students from the beginning of the course.

F- Available university services that support achievement in the course:

Labs are well equipped for this purpose.

24. Required equipment: (Facilities, Tools, Labs, Training....)

Dairy laboratory equipment.

25. References:

Required book (s), assigned reading and audio-visuals:

- 1- Adams, M. R. and Moss, M. O. 2004. Food Microbiology. The Royal Society of Chemistry, Cambridge.
- 2- Nout, M.J.R. and Sarkar, P. K. 2016. Fermented Milk and dairy products. CRC Press. Taylor & Francis Group, NW.
- 3- Spreer, E. 1998. Milk and Dairy Products Technology. Marcel Dekker Inc. NY

Recommended books, materials, and media:

1- Center for Food Safety & Applied Nutrition (2001). Bacteriological Analytical Manual Online U.S. Food & Drug Administration, U. S. Department of Health and Human Services.
(<http://www.cfsan.fda.gov/~ebam/bam-toc.html>).

2- Jay J.M., Loessner, M. J. and Golden, D. V. 2005. Modern Food Microbiology. 7th edition Springer, New York.

Ray, B and Bhunia, A. 2008. Fundamental Food Microbiology. 4th edition. CRC Press. Taylor & Francis Group, NW.

26. Additional information:

Non

Name of Course Coordinator: ----- Dr. Malik Hadaddin --Signature: ----- Date: 11th Oct 2020

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----