

Course Syllabus

1	Course title	Cereal Science & Technology
2	Course number	603344
3	Credit hours (theory, practical)	3
	Contact hours (theory, practical)	2,3
4	Prerequisites/corequisites	Food Processing
5	Program title	Food Science and Technology.
6	Program code	042
7	Awarding institution	University of Jordan
8	School	Agriculture
9	Department	Nutrition and Food Technology
10	Level of course	Third Year
11	Year of study and semester (s)	
12	Final Qualification	BSc
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Date of production/revision	24/12/2019

16. Course Coordinator:

Ayed Amr

17. Other instructors:

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

074, to be arranged, 22408,0777498806,ayedamr@ju.edu.jo

18. Course Description:

As stated in the approved study plan.

The course aims at introducing the student to the basic concepts of cereal science and technology with emphasis on wheat products. It covers the major cereals with respect to their utilization, composition, and importance as foods. The course also deals with the chemical and physical properties of wheat, the technology of dry milling, and the production of the most common cereal products. Laboratory exercises, and field visits are intended to enforce the material covered in the lectures.

19. Course aims and outcomes:

Successful completion of the course should lead to the following outcomes:

A. Knowledge and Understanding: Student is expected to

A1- Identify the importance of cereals as foods, and appreciate their nutritional value.

A2- Identify the proper methods of wheat and grain handling and storage.

A3- List the various components of cereals and their approximate levels, their functional roles in the various cereal foods, and methods of analysis.

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

B1- Describe the botanical, physical, and chemical criteria of wheat quality, their methods of evaluation, roles in wheat grading and processing.

B2- Explain the dry milling processes of bread and durum types of wheat, and how flour grades are obtained.

B3- Describe how bread, biscuits, pasta, and breakfast cereals are produced, and identify the parameters involved in their quality evaluation in light of Jordan standards of identity.

C. Subject- Specific Skills:

C1- Describe how bread, biscuits, pasta, and breakfast cereals are produced.

C2- Be able to evaluate the quality of cereal products in light of Jordan standards.

C3- Interpret the results of cereal analysis tests from the different laboratories.

D. Transferable Key Skills: After taking the course the student is expected to

D1- Run a Farinograph, Falling number and gluten washing tests.

D2- Carry out proximate analysis tests for cereal products.

D3- Establish and equip a cereal technology laboratory.

20. Topic Outline and Schedule:

Content	Reference(Text)	Week	ILO/s
Cereal crops	p. 6,9,11,15,19,22 1	1	A1-3
<i>First Lab report & Quiz 1</i>			
Chemical composition	p. 53-77	2,3	A1-3
Wheat types and handling	p. 78-82,92	3-4	A1-3, B1-3
<i>Second Lab report & Quiz 2</i>			
Wheat storage	p.103-125	4,5	C1-3, D1-3.
<i>Field visit report & Quiz3</i>			
Preprocessing Treatment	p.129-154	6-7	A1-3, C1-3
<i>Quiz 4</i>			
Midterm Exam.			

Flour Quality and Treatment	p.170-189	8-9	A1-3, B1-3.
<i>Lab. Report & Quiz 5</i>			
Principles of bread baking technology.	p.191-208	10,11	A1-3,C1-3,D1-3.
<i>Lab report & Quiz 6</i>			
Pasta & whole Grain Foods	p.233-242	12,13	C1-3 & D1-3.
<i>Lab report & Quiz 7</i>			
Breakfast Cereals	p.244-256.	13,14	A1-3, C1-3.
<i>Field visit report , Quiz 8</i>			
Nutritional Aspects of Cereal Foods.	p.276-299	14,15	A1-3, B1-3.

21. Teaching Methods and Assignments:

<p>Development of ILOs is promoted through the following teaching and learning methods:</p> <p>Lectures, Laboratory Experiments , Field visits. Laboratory reports, Field visit reports.</p>
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22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:		
ILO/s	Learning Methods	Evaluation Methods
Knowledge & understanding (A1-A3)	Lectures and Discussions,	Exam, Quiz, presentation.
Intellectual, Analytical and Cognitive Skills (B1-B3)	Lectures, discussions , home works.	Exams and Quiz.
Subject- Specific Skills. (C1-C3)	Lectures, Lab demonstrations and experiments.	Quiz. , exams and lab. Reports.
Transferable Key Skills (D1-D3)	Lectures, Lab. Work and experiments, Field visits.	Lab reports, projects.

23. Course Policies:

A- Attendance policies: **Attendance is taken every lecture.**

B- Absences from exams and handing in assignments on time: **Make ups are given for absent students with valid excuses. Penalty is imposed on those turn assignments late 1 point is deducted / late day.**

C- Health and safety procedures: **They are taken care of through regular inspections by concerned committee.**

D- Honesty policy regarding cheating, plagiarism, misbehavior: **Violators are penalized according to University codes of conduct.**

E- Grading policy:

Evaluation	Point %	Date
Midterm Exam	25	Week 7
Quizes	10	As outlined in Syllabus
Field visit reports	5	As outlined in Syllabus
Lab. reports	10	As outlined in Syllabus
Final Exam	50	To be arranged

F- Available university services that support achievement in the course: **equipped lab and teaching assistant.**

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

Mills, Wheat cleaning equipment, Farinograph, Amylograph, structograph, proximate composition equipment,

25. References:

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

Kent, N.L. & A.D. Evers2008., Kent's Technology of Cereals. 5th Edition , Pergamon Press, Oxford U.K.

Recommended books, materials, and media:

26. Additional information:

Name of Course Coordinator: Ayed Amr Signature:  Date: 24/12/2019 - -----

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

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

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

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