

## Course Syllabus

1	Course title	Developments in Food Science
2	Course number	0633740
3	Credit hours (theory, practical)	3
	Contact hours (theory, practical)	Theory
4	Prerequisites/corequisites	--
5	Program title	Food Science and Technology
6	Program code	037
7	Awarding institution	University of Jordan
8	School	Agriculture
9	Department	Nutrition and Food Technology
10	Level of course	MSc
11	Year of study and semester (s)	2020 second semester
12	Final Qualification	MSc
13	Other department (s) involved in teaching the course	--
14	Language of Instruction	English
15	Date of production/revision	2020

### 16. Course Coordinator:

Office number: 22407  
Office hours: Sunday, Tuesday & Thursday (9-10). Monday & Wednesday (10-11)  
E-mail address: basem@ju.edu.jo

### 17. Other instructors:

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### 18. Course Description:

The course deals with recent advances in the modern food processing techniques, as well as the new developments in the production of the various food products with focus on physical and chemical principles, the scientific basis of some concepts related to food processing like shelf life, accelerated storage, biosensors and modelling are also discussed.

## 19. Course aims and outcomes:

<p>A- Aims:</p> <ul style="list-style-type: none"> <li>- Describe and identify the major research focus areas in the modern food science and technology.</li> <li>- Discuss how to critically evaluate a food process.</li> <li>- Describe the influence of processing steps on chemical and physical properties of foods.</li> <li>- Distinguish features of each process and products.</li> <li>- State the important functional properties of food components in the related products.</li> <li>- Explain the relationship between the particular process or treatment and its effect on food properties.</li> <li>- Describe the specific reaction that induce changes in food.</li> <li>- Explain processing and preservation potential to improve food safety, quality and shelf life.</li> <li>- Outline the basic approaches to utilize the new methods of food preservation to produce food.</li> </ul>
<p>B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to:</p> <p><b>A. Knowledge and Understanding:</b> Student is expected to</p> <p><b>A1-</b> Describe and identify the major research focus areas in the modern food science and technology.</p> <p><b>A2-</b> Describe the influence of processing steps on chemical and physical properties of foods.</p>
<p><b>B. Intellectual Analytical and Cognitive Skills:</b> Student is expected to</p> <p><b>B1-</b> Discuss how to critically evaluate a food process.</p> <p><b>B2-</b> Distinguish features of each process and products.</p> <p><b>B3-</b> Describe the specific reaction that induce changes in food.</p>
<p><b>C. Subject- Specific Skills:</b> Students is expected to</p> <p><b>C1-</b> Explain the relationship between the particular process or treatment and its effect on food properties.</p> <p><b>C2-</b> Explain processing and preservation potential to improve food safety, quality and shelf life.</p>
<p><b>D. Transferable Key Skills:</b> Students is expected to</p> <p><b>D1-</b> Outline the basic approaches to utilize the new methods of food preservation to produce food.</p> <p><b>D2-</b> State the important functional properties of food components in the related products.</p>

## 20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Hurdle concept in food preservation	(wk 1-2)	Dr.Basem AlSawalha	A-1,A2	Exams & Quizzes	
Developments in conventional heat treatment	(wk 3)	Dr.Basem AlSawalha	A-2,B1	Exams & Quizzes	
Developments in food freezing	(wk 4)	Dr.Basem AlSawalha	C-2, B-2	Exams	

Developments in modified atmosphere packaging	(wk 5)	Dr.Basem AlSawalha	A-4, B-3, C-2	Exams & Quizzes	
High pressure treatment of food	(wk 6)	Dr.Basem AlSawalha	D-1,B-3,C2	Projects presentation, homework assignments & exams	
The control of PH	(wk 7-8)	Dr.Basem AlSawalha	A-2,D-2,B-3	Exams & Quizzes	
Membrane filtration techniques in food preservation	(wk 9-10)	Dr.Basem AlSawalha	A-1,B-2,C-2	Exams & Quizzes	
-Minimal processing of food  -Advances in food extrusion	(wk 11-13)	Dr.Basem AlSawalha	C-2, D-1	Projects presentation, homework assignments & exams	
-Accelerated estimation and monitoring of food shelf life -Food coating and enrobing	(wk14- 16)	Dr.Basem AlSawalha	C-2,B-3,D-1	Projects presentation, homework assignments & exams	

## 21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

ILO/s	Learning Method
A. Knowledge and Understanding (A1-A..)	Lectures and Discussions
B. Intellectual Analytical and Cognitive Skills (B1-B..)	Lectures and Discussions
C. Subject Specific Skills (C1-C....)	Lectures and Discussions
D. Transferable Key Skills (D1-D3...)	Project & presentation

## 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..)	Exams
B. Intellectual Analytical and Cognitive Skills (B1-B..)	Exams
C. Subject Specific Skills (C1-C....)	Exams
D. Transferable Key Skills (D1-D3...)	Projects presentation and homework assignments.

**23. Course Policies:**

A- Attendance policies:
B- Absences from exams and handing in assignments on time:
C- Health and safety procedures:
D- Honesty policy regarding cheating, plagiarism, misbehavior:
E- Grading policy:
F- Available university services that support achievement in the course:

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

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**25. References:**

<ol style="list-style-type: none"><li>1. Zeuthen, P. and Sorenen, L.B. (2003). Food Preservation Techniques. CRC Press, Boston.</li><li>2. Gould, G.W(1996) New Methods of food Preservation. Chapman &amp; Hall, London.</li><li>3. Brennan, J.G. (2006). Food processing Handbook. Wiley-VCH, Weinheim.</li><li>4. Fellows, P. (2000). Food processing Technology. CRC Press, New York.</li></ol>
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**26. Additional information:**

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Name of Course Coordinator: --Dr.Basem AlSawalha--- Signature: ----- Date: -----

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

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

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

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