

Course Syllabus

1	Course title	Confectionery Production
2	Course number	643440
3	Credit hours (theory, practical)	2 hrs (1theory, 1 practical)
	Contact hours (theory, practical)	1 hrs/ wk and 3 hrs/ wk for practical
4	Prerequisites/corequisites	603345
5	Program title	Food Science and Technology
6	Program code	042
7	Awarding institution	The University of Jordan
8	School	Agriculture
9	Department	Department of Nutrition and Food Technology
10	Level of course	3 rd year
11	Year of study and semester (s)	2019
12	Final Qualification	BSc
13	Other department (s) involved in teaching the course	NA
14	Language of Instruction	English and Arabic
15	Date of production/revision	Nov., 2019

16. Course Coordinator:

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

Prof Maher Al-dabbas, Dept head office, Ex. 22422 email; m.aldabbas@ju.edu.jo
Office hrs: every day 12-13

17. Other instructors:

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

None

18. Course Description:

This course is aimed at giving students a basic understanding of the theoretical and practical knowledge of confectionery and candy processing. This course will provide practical demonstrations for basic confectionery preparations; properties of the principle ingredients and new developments in candy and confectionery technology

19. Course aims and outcomes:

<p>A- Aims:</p> <ol style="list-style-type: none"> 1. To introduce students to the basic fundamentals of confectionery processing and underlying technology associated with candy and confectionery processing to produce high quality products 2. Learn the chemistry, source, roles and properties of raw materials especially sugars and sugar substitutes used in manufacture of confectionery and candy 3. Understanding traditional and modern confectionery processing, preparation, and storage 4. Students will be introduced to basic confectionery products, recipes and methods for producing a large variety of candy and confection 5. Students will be introduced to the basic chemical analysis of sugar, sugar syrups and honey. 6. To practice the methods and techniques of candy and its raw ingredients analysis at laboratory scale, and to evaluate the student's produce of each candy in lab. <p>B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to</p> <p>A. Knowledge and Understanding: Student is expected to</p> <p>A1- Describe the objectives of the study of raw ingredients used in confectionery production.</p> <p>A2- Describe the structure, manufacturing method, chemistry and different type of confections and their ingredients</p> <p>A3- To understand and recognize the science of confectionery and its raw ingredients.</p> <p>B. Intellectual Analytical and Cognitive Skills: Student is expected to</p> <p>B1- Choose the most appropriate method for the preparation of different confections.</p> <p>B2- Select, prepare and handle confections appropriately.</p> <p>B3. Effect of processing techniques and ingredients on the quality of final products.</p> <p>C. Subject- Specific Skills: Students is expected to</p> <p>C1- Understand different type of confections resulting from variations in preparation and/or ingredients.</p> <p>C2- Description recipes including the category, cooking time, techniques, equipments, Instruction and description to produce high quality products.</p> <p>D. Transferable Key Skills: Students is expected to</p> <p>D1- basic chemical analysis of sugar, sugar syrups and honey</p> <p>D2- Adopt safe and hygienic practices in confectionery production.</p> <p>D3- Evaluate the quality of the produce using sensory methods.</p> <p>D4- Adopt the science and practice of confectionery sciences.</p>
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20. Topic Outline and Schedule:

Topic	Instructor	Week	Achieved ILOs	Evaluation Methods	Reference
Introduction to confectionery and candy manufacturer - Chemistry of sugars,	Prof. Maher Al-Dabbas	1 st and 2 wks	ILO/s A1-A3	Discussion and analysis	Sugar Confectionery and Chocolate Manufacture Lees and Jackson, 1 st Ed London: Chapman & H

role of sugars in food systems, nutritional significance - Type of sugars, sugar syrups and other sweeteners used in confectionery -Cane and beet sugar processing			and D3		1973, Reprinted 1994. - Stephen T. Beckett. The Science of Chocolate . 2 nd Ed. RSC publishing, Cambridge, UK, 2008.
Preparation of sugar solutions; Refractometry, Polarimetry and Brix	Prof. Maher Al-Dabbas	1 st wk lab	A2 and D1	Assignments	Laboratory Manual. prepared by Dr. Maher Al-dabbas
Confectionery ingredients and process Principles of sugar confectionery production Confectionery fats and emulsifiers - Gelling and whipping or aerating agents	Prof. Maher Al-Dabbas	3 rd and 4 th wks	D1 and C1	Quiz and discussion	- Sugar Confectionery and Chocolate Manufacture by Lees and Jackson, 1 st Ed London: Chapman & Hall 1973, Reprinted 1994. - Justin J. Alikonis. Candy Technology. AVI publishing company, Inc., Westport, Connecticut, 1979.
- Moisture and Total ash of sugar	Prof. Maher Al-Dabbas	2 nd wk practical	A2, D1	Exam, Quiz and evaluation sheet for each lab.	Laboratory Manual.(prepared by Prof. Maher
Sugar cookery: Non-Crystalline candies; Hard candies (Tablets, lollipop)	Prof. Maher Al-Dabbas	5 th wk	A1,A2, A3, B1, B2, B3, C1,C2, C3, D2,d3, D4	Discussion and feedback	-Sugar Confectionery and Chocolate Manufacture by Lees and Jackson, 1 st Ed London: Chapman & Hall 1973, Reprinted 1994. - Justin J. Alikonis. Candy Technology. AVI publishing company, Inc Westport, Connecticut, 1979. .
Determination of total sugars by Phenol-H ₂ SO ₄ test and Anthrone test	Prof. Maher Al-Dabbas	3 rd wk practical	A2, D1	Quiz	Laboratory Manual.(prepared by Prof. Maher
- Caramels, Toffees and Fudges	Prof. Maher Al-Dabbas	6 th wk	A1,A2, A3, B1, B2, B3, C1,C2, C3, D2,d3, D4	Quiz and assignments	Sugar Confectionery and Chocolate Manufacture by Lees and Jackson, 1 st Ed London: Chapman & Hall 1973, Reprinted 1994. - Justin J. Alikonis. Candy Technology. AVI publishing company, Inc Westport, Connecticut,

					1979. .
Determination of 5-methylhydroxyfurfural in honey	Prof. Maher Al-Dabbas	4 th wk	A2 and D1	Evaluation sheet for each lab.	Laboratory Manual.(prepared by Prof. Maher
Fondants, Cream and crystalline candies	Prof. Maher Al-Dabbas	7 th wk	A1,A2, A3, B1, B2, B3, C1,C2, C3, D2,d3, D4	assignments	Sugar Confectionery and Chocolate Manufacture Lees and Jackson, 1 st Ed London: Chapman & H 1973, Reprinted 1994. - Justin J. Alikonis. Cand Technology. AVI publishing company, Inc Westport, Connecticut, 1979
Drops, Tablets and lollipops processing	Prof. Maher Al-Dabbas	5 th wk	A2, B1, B2, B3, C1,C2,C 3 D2, D3, D4	Discussion	Laboratory Manual.(prepared by Prof. Maher
Delight and Nougat Gelatin sweets, Lozenges and Marshmallow	Maher Al-Dab	8 th wk	A1,A2, A3, B1, B2, B3, C1,C2, C3, D2,d3, D4	Quiz and assignments	- Sugar Confectionery and Chocolate Manufacture Lees and Jackson, 1 st Ed London: Chapman & H 1973, Reprinted 1994. - Justin J. Alikonis. Cand Technology. AVI publishing company, Inc Westport, Connecticut, 1979.
Toffees (Plain chewing toffee and butter or milk toffee) Fondants and Chocolate Fudge	Prof. Maher Al-Dabbas	6 th wk	A2, B1, B2, B3, C1,C2, C3, D2, D3, D4	Evaluation sheet for each lab.	Laboratory Manual.(prepared by Prof. Maher
Cocoa, Chocolate and related products	Prof. Maher Al-Dabbas	9 th and 10 th wk	A1,A2, A3, B1, B2, B3, C1,C2, C3, D2,d3, D4	Discussion	- Sugar Confectionery and Chocolate Manufacture Lees and Jackson, 1 st Ed London: Chapman & H 1973, Reprinted 1994. - Bernard W. Minifie Chocolate, Cocoa, and Confectionery Science and Technology. 3 rd Ed. AVI Book, New York: Van Nostrand Reinold, 1989. - Stephen T. Beckett. The Science of Chocolate . 2 nd Ed. RSC publishing, Cambridge, UK, 2008

Vanilla milk caramels	Prof. Maher Al-Dabbas	7 th wk	A2, B1, B2, B3, C1,C2, C3, D2, D3, D4, D3	Evaluation sheet for each lab	Laboratory Manual.(prepared by Prof. Maher
Edible candy coating, packaging and storage	Prof. Maher Al-Dabbas	11 th and 12 th wk	A1, A2, A3, B1, B2, B3, C1,C2, D1, D2, D3	Quiz and assignments	-- Sugar Confectionery and Chocolate Manufacture by Lees and Jackson, 1 st Ed London: Chapman & Hall 1973, Reprinted 1994. - Justin J. Alikonis. Candy Technology. AVI publishing company, Inc Westport, Connecticut, 1979.
Nougat and delight	Prof. Maher Al-Dabbas	8 th wk	A2, B1, B2, B3, C1,C2, C3, D2, D3, D4	Evaluation sheet for each lab.	Laboratory Manual.(prepared by Prof. Maher
Peanut brittle and sugar-nuts toppings and changes during cooking	Prof. Maher Al-Dabbas	13 th	A1, A2, A3, B1, B2, B3, C1,C2, D1, D2, D3	Discussion	--- Sugar Confectionery and Chocolate Manufacture by Lees and Jackson, 1 st Ed London: Chapman & Hall 1973, Reprinted 1994. - Justin J. Alikonis. Candy Technology. AVI publishing company, Inc Westport, Connecticut, 1979
Chocolate candy and chocolate fillings, Chocolate coated fruits	Prof. Maher Al-Dabbas	9 th -11th wks	A2, B1, B2, B3, C1,C2, D1, D2, D3	Quiz and assignments	Laboratory Manual.(prepared by Prof. Maher
Field visits to confectionary factories	Prof. Maher Al-Dabbas	12 th	A1, A2, A3, B1, B2, B3, C1,C2, D1, D2, D3	Discussion and visit evaluation	

21. Teaching Methods and Assignments:

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

Lectures and discussion with assignments strengthen through practice (laboratories related to each topic). Creative thinking through questions given during lectures and ability of solving and analysing problems related to each topic.

22. Evaluation Methods and Course Requirements:

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

Exams, Quizzes, open discussion, evaluation and ability to analyze problems using on the spot questions or requirement of assignments.

23. Course Policies:

A- Attendance policies: **Attendance sheet for each lecture and each lab.**

B- Absences from exams and handing in assignments on time: **Make up if there is an official excuse, assignment not accepted after specified date.**

C- Health and safety procedures: **Well seated without any drink on lecture**

D- Honesty policy regarding cheating, plagiarism, misbehavior: **Subjected to students punishment committee**

E- Grading policy: **According to average and University policy**

F- Available university services that support achievement in the course: **Requested before the course and available or provided on request.**

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

Suitable lecture room well equipped lab. With needed tools, and training in suitable organization related to the field of study at graduation time.

25. References:

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

References available in library, text and handled sheets, movies related to specific subjects may be provided

Recommended books, materials, and media:

Main text

Lees and Jackson. Sugar Confectionery and Chocolate Manufacture .1st Ed. London: Chapman & Hall, Reprinted 1994.

References:

1. Bernard W. Minifie. Chocolate, Cocoa, and Confectionery Science and Technology. 3rd Ed. AVI Book, New York: Van Nostrand Reinold, 1989.

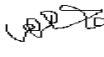
2. Stephen T. Beckett. The Science of Chocolate . 2nd Ed. RSC publishing, Cambridge, UK, 2008

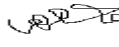
3. Justin J. Alikonis. Candy Technology. AVI publishing company, Inc., Westport, Connecticut, 1979.

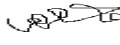
4. Vickie, A.V& Elizabeth, W. C. Essentials of Food Science. 3rd Ed. Springer, 2008

26. Additional information:

None

Name of Course Coordinator: Prof Maher Al-Dabbas. Signature:  Date: 25th Nov., 2019

Head of curriculum committee/Department: Prof Maher Al-Dabbas. Signature: 

Head of Department: Prof Maher Al-Dabbas Signature: 

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

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