



**ATTACHMENT 2 (e)**

**Course Specifications**

**Kingdom of Saudi Arabia**

**The National Commission for Academic Accreditation & Assessment**

# **Industrial Food Chemistry**

**4024781-2**  
**Course Specifications**  
**(CS)**





### Course Specifications

Institution : <b>Umm al Qura University</b>	Date of Report : <b>2017</b>
College/Department : <b>College of Applied Sciences / Department of Chemistry</b>	

#### A. Course Identification and General Information

1. Course title and code: <b>Industrial Food Chemistry 4024781-2</b>	
2. Credit hours : <b>2 hrs (2 theoretical)</b>	
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) <b>Industrial Chemistry</b>	
4. Name of faculty member responsible for the course: <b>Dr. Nizar El Guesmi</b>	
5. Level/year at which this course is offered : <b>eighth Level / fourth Year</b>	
6. Pre-requisites for this course (if any) : <b>Organic Spectroscopy</b>	
7. Co-requisites for this course (if any)	
8. Location if not on main campus: <b>El-Abdyah</b>	
9. Mode of Instruction (mark all that apply)	
a. Traditional classroom	<input checked="" type="checkbox"/> What percentage? 100%
b. Blended (traditional and online)	<input type="checkbox"/> What percentage?
c. e-learning	<input type="checkbox"/> What percentage? <input type="text"/>
d. Correspondence	<input type="checkbox"/> What percentage? <input type="text"/>
f. Other	<input type="checkbox"/> What percentage? <input type="text"/>
Comments:	

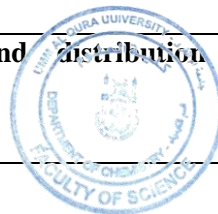


## B Objectives

1. What is the main purpose for this course?  <b>Definition of the natural properties of the components of a food, their function and importance, reactions and methods of manufacturing, warehousing and distribution operations.</b>
2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field) <b>The students will be mentioned to prepare an essay or a report from literature using the library, data base services, and/or websites to follow up and update the new topics of the subject of the course</b>

## C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact Hours
<b>Introduction to the food industry</b>	<b>1</b>	<b>2</b>
<b>Raw materials in the food industry</b>	<b>1</b>	<b>2</b>
<b>Preservatives and additives</b>	<b>1</b>	<b>2</b>
<b>Flavorings and antioxidants</b>	<b>2</b>	<b>4</b>
<b>Fermentation and its impact on the food industry</b>	<b>1</b>	<b>2</b>
<b>Food contaminants and the impact of pesticides on food</b>	<b>1</b>	<b>2</b>
<b>Important chemical reactions in food</b>	<b>2</b>	<b>4</b>
<b>Examples of some food industry: Margarine industry ; Fruit and vegetable juice; Industrial drinks; Jams and jellies and similar products; Tomatoes and products.</b>	<b>4</b>	<b>8</b>
<b>The impact of manufacturing, warehousing and distribution operations on natural components for food.</b>	<b>1</b>	<b>2</b>





2. Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	28	-	-	-	-	28
Credit	2	-	-	-	-	2

3. Additional private study/learning hours expected for students per week. .	<b>~ 4 Hours</b>
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy
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	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
<b>1.0</b>	<b>Knowledge</b>		
1.1	Recognize the raw materials in the food industry	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Scientific discussion</li> <li>• Library visits</li> <li>• Web-based study</li> </ul>	<ul style="list-style-type: none"> <li>• Exams</li> <li>• web-based student performance systems</li> <li>• portfolios</li> <li>• long and short essays</li> <li>• posters lab manuals</li> </ul>
1.2	Know the fermentation operation and its impact on the food industry		
1.3	Describe the different methods of manufacturing of some food industry		
1.4	Familiar with the general steps of manufacturing of different food industry		
1.5	Select the proper preservatives, additives, flavorings and antioxidants used in food industry		
1.6	Identify the food contaminants		
1.7	Write a important chemical reactions in food		
1.8	Recognize the importance of warehousing and distribution operations on natural components for food		
1.9	Outline the different uses of food industry		
<b>2.0</b>	<b>Cognitive Skills</b>		
2.1	Compare each class of food industry through its raw materials.	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Scientific discussion</li> <li>• Library visits</li> </ul>	<ul style="list-style-type: none"> <li>• Exams</li> <li>• web-based student performance systems</li> </ul>
2.2	Explain the Fermentation operation and its impact on the food industry		



2.3	Analyze the specific operations for manufacturing, warehousing and distribution and its impact on natural components for food.	• Web-based study	• portfolios • posters • demonstrations
2.4	Predict the benefits and harms of some food industry		
2.5	Summarize the different methods for the preparation of some food industry		
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
	• NOT APPLICABLE	•	•
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
	<ul style="list-style-type: none"> <li>Evaluate the different methods of preparation of food industry</li> <li>Demonstrate a synthetic pathways for manufacturing of some food industry</li> <li>Use information and communication technology.</li> <li>The ability to use e-mail to communicate with the instructor and other students.</li> <li>Scientific writing.</li> <li>Use his/her observations to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>Lectures</li> <li>Scientific discussion</li> <li>Library visits</li> <li>Web-based study</li> </ul>	<ul style="list-style-type: none"> <li>web-based student performance systems</li> <li>individual and group presentations</li> </ul>
<b>5.0</b>	<b>Psychomotor</b>		
5.1	NOT APPLICABLE		
5.2			

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Homework or activities.	--	10 %
2	First Periodic Exam.	6	20 %
3	Second Periodic Exam.	12	20 %
4	Final Exam. (2hours exam)	16	50 %
5	<b>Total</b>		<b>100 %</b>

#### **D. Student Academic Counseling and Support**



1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- **We have faculty members to provide counseling and advice.**
- **Office hours : During the working hours weekly.**
- **Academic Advising for students.**

## E. Learning Resources

1. List Required Textbooks

1. H. D. Belitz , W. Grosch, P. Schieberle "*Food Chemistry*" **2009**, Springer.
2. O. R. Fennema "*Food Chemistry (Food Science and Technology) 4<sup>th</sup> Edition*" **2007**, CRC Press.
3. Roy Teranishi, Emily L. Wick, Irwin Hornstein "*Flavor Chemistry: Thirty Years of Progress, 1<sup>st</sup> Edition*" **1999**, Springer
4. Stig Friberg, Kare Larsson, Johan Sjoblom "*Food Emulsions (Food Science and Technology) 4<sup>th</sup> Edition*" **2003**, CRC Press

2. List Essential References Materials (Journals, Reports, etc.)

- **Food Science & Nutrition**
- **Comprehensive Reviews in Food Science and Food Safety**

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

5. Y. Velisek. "*The Chemistry of Food*" **2014**, Wiley-Blackwell.
6. Titus A. M. Msagati. "*The Chemistry of Food Additives and Preservatives*" **2012**, Wiley-Blackwell.

4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)

- **<http://www.chemweb.com>**
- **<http://www.sciencedirect.com>**
- **<http://www.rsc.org>**

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

## F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- **Classrooms capacity (30) students.**
- **Providing hall of teaching aids including computers and projector.**



2. Computing resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none"><li>▪ <b>Room equipped with computer and projector and TV.</b></li></ul>
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) <ul style="list-style-type: none"><li>• <b>No other requirements.</b></li></ul>

## G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching <b>Complete the questionnaire evaluation of the course in particular.</b>
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor <ul style="list-style-type: none"><li>• <b>Observations and the assistance of colleagues.</b></li><li>• <b>Independent evaluation for extent to achieve students the standards.</b></li><li>• <b>Independent advice of the duties and tasks.</b></li></ul>
3 Processes for Improvement of Teaching <ul style="list-style-type: none"><li>• <b>Workshops for teaching methods.</b></li><li>• <b>Continuous training of member staff.</b></li><li>• <b>Review of strategies proposed.</b></li><li>• <b>Providing new tools for learning.</b></li><li>• <b>The application of e-learning.</b></li><li>• <b>Exchange of experiences internal and external.</b></li></ul>
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) <ul style="list-style-type: none"><li>▪ <b>Check marking of a sample of exam papers, or student work.</b></li><li>▪ <b>Exchange corrected sample of assignments or exam basis with another staff member for the same course in other faculty.</b></li></ul>



5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- **Periodic Review of the contents of the syllabus and modify the negatives.**
- **Consult other staff of the course.**
- **Hosting a visiting staff to evaluate of the course.**
- **Workshops for teachers of the course.**

Faculty or Teaching Staff : **Dr/ Nizar ElGuesmi**

Signature: 

Date Report Completed: 12/1/2019

Received by: **Dr. Ismail Althagafi**

Department Head

Signature: 

Date: 20/1/2019

