



## Course Specifications

<b>Course Title:</b>	<b>Fundamentals of Food Industries</b>
<b>Course Code:</b>	<b>2062102-3</b>
<b>Program:</b>	<b>Bachelor in Food Science and Nutrition</b>
<b>Department:</b>	<b>Food Sciences and Nutrition Department</b>
<b>College:</b>	<b>College of Science</b>
<b>Institution:</b>	<b>Taif University</b>

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## A. Course Identification

<b>1. Credit hours:</b> 3 Hours
<b>2. Course type</b>
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> 6 <sup>st</sup> Level / 2 <sup>nd</sup> year
<b>4. Pre-requisites for this course (if any):</b> None
<b>5. Co-requisites for this course (if any):</b> None

### 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	√	100%
2	Blended	---	---
3	E-learning	---	---
4	Distance learning	---	---
5	Other		

### 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	---
4	Others (specify)	---
	<b>Total</b>	<b>60</b>

## B. Course Objectives and Learning Outcomes:

<b>1. Course Description</b>
This course is planned to impart the knowledge and different skills in food and nutrition basics, physical and chemical properties of food raw materials. Hygiene and Food Sanitation, food preservation, food processing, components and properties of milk and dairy technology, technology of major milk products also will deliver.
<b>2. Course Main Objective:</b>
This course covers the basics of food characteristics and nutrition. Also, the different processing methods used in food industry.

### 3. Course Learning Outcomes:

CLOs		Aligned PLOs
1.0	<b>Knowledge and understanding</b>	
1.1	Recognize physico-chemical properties of food.	<b>K1</b>
1.2	Define the food preservation methods and their effect on food characteristics.	<b>K3</b>
2.0	<b>Skills :</b>	
2.1	Determination the food quality and safety.	<b>S4</b>
2.2	Evaluate the effect of industrial methods on the food characteristics.	<b>S4</b>
3	<b>Values:</b>	
3.1	Cooperate in preparation of different microbial media	<b>V2</b>
3.2	Support both oral and written excellence for data presentation.	<b>V3</b>

## C. Course Content:

No	List of Topics	Contact Hours
1	Food and nutrition: (food identification-nutrients-carbohydrates-proteins-fats-minerals-vitamins)	3
2	Raw Materials of Foods: (Handling and Management)	3
3	Hygiene and Food Sanitation: (Food contamination and safety factors)	3
4	Food preservation: (temperature and moisture control-microorganisms or spoilage inhibition- chilling-freezing- thermal processing- drying and freeze drying-food additives)	6
5	Food processing (Meat, poultry and seafood products and technologies-cereals and bakery technologies- fats and oils processing technology-sugar and chocolate manufacturing-industrial fermentation-food packaging)	9
6	Production of milk - Sensory, natural and chemical properties of milk and dairy products.	3
7	Technology of major milk products: Manufacture of fatty and frozen dairy products - different cheese and fermented milk – condensing and dried milk -ice cream)	3
<b>Total</b>		<b>30</b>
<b>Experimental Topics</b>		
1	Food solutions - types - the importance of preparation - Methods of preparation of food solutions.	3
2	Methods of measurement of food solutions: (hydrometers – refractometer and vials of density)	6
3	Preparation of vegetables and fruit for food processing.	3
4	Preparation of juices and syrups.	3
5	Manufacturing jams-jelly-marmalade.	3
6	Quality testes for different food types (Meat, poultry, seafood, cereals, fats and oils- sugar and chocolate. etc.)	9
7	Milk sampling - determination of the acidity of the milk - specific weight by lactometer - Determination of milk fat - total and total solids	3
<b>Total</b>		<b>30</b>

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and understanding</b>		
1.1	Recognize physico-chemical properties of food.	Lecture	Written and practical exams
1.2	Define the food preservation methods and their effect on food characteristics.	Lecture - Practical demonstrations	Written and practical exams
<b>2.0</b>	<b>Skills</b>		
2.1	Determination the food quality and safety.	Write a short report	Written exam Report evaluation
2.2	Explanation the effect of industrial methods on the food characteristics.	Lecture - Practical demonstrations	Written exam Practical exam
<b>3.0</b>	<b>Values</b>		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.1	Cooperate during laboratory experiments	Practical lessons	Practical exam
3.2	Visit the scientific websites and Library for preparation reports.	Work in small groups and e-learning	Report evaluation

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignment and Interaction during lectures	Continues	10%
2	Midterm exam	5-6	20%
3	Weekly Lab. Reports	Continues	20%
4	Practical exam	11	10%
5	Final exam	12	40%

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support:

### Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

- There are 6 h per week for this purpose and the students know these hours according to the time of professor who teach the course.
- Student satisfaction surveys are conducted for academic guidance.
- Develop an improvement plan for academic guidance based on the results of the questionnaire analysis.

## F. Learning Resources and Facilities

### 1. Learning Resources:

<b>Required Textbooks</b>	<ul style="list-style-type: none"> <li>- Varzakas, T. and Tzia, C. (2016). Handbook of Food Processing Food Preservation. Taylor &amp; Francis Group, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742.</li> <li>- (<a href="https://www.taylorfrancis-com.sdl.idm.oclc.org/search?key=Handbook%20of%20Food%20Processing%20Food%20Preservation">https://www.taylorfrancis-com.sdl.idm.oclc.org/search?key=Handbook%20of%20Food%20Processing%20Food%20Preservation</a>)</li> <li>- Varzakas, T. and Tzia, C. (2016). Handbook of Food Processing Food Safety, Quality, and Manufacturing Processes. Taylor &amp; Francis Group, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742.</li> <li>- (<a href="https://www.taylorfrancis-com.sdl.idm.oclc.org/search?key=Handbook%20of%20Food%20Processing%20Food%20Preservation">https://www.taylorfrancis-com.sdl.idm.oclc.org/search?key=Handbook%20of%20Food%20Processing%20Food%20Preservation</a>)</li> </ul>
<b>Essential References Materials</b>	<ul style="list-style-type: none"> <li>- سعد أحمد سعد حلابو ومحمود على أحمد بخيت. موسوعة التصنيع الغذائي (الجزء الأول). المكتبة الأكاديمية. 2010.</li> <li>- سعد أحمد سعد حلابو ومحمود على أحمد بخيت. موسوعة التصنيع الغذائي (الجزء الثاني). المكتبة الأكاديمية. 2013.</li> </ul>
<b>Electronic Materials</b>	<ul style="list-style-type: none"> <li>- Sciencedirect.com</li> <li>- PubMed.</li> <li>- Springer.</li> <li>- <a href="https://www.nature.com/subjects/microbiology">https://www.nature.com/subjects/microbiology</a></li> <li>- <a href="https://www.microbiologysociety.org/">https://www.microbiologysociety.org/</a></li> </ul>
<b>Other Learning Materials</b>	Computer.

## 2. Facilities Required:

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	- Classroom (capacity not more than 40 students) for 3 h/week. - Microbial Lab (capacity not more than 20 students) for 3 h/week
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	- Data Show projectors, smart blackboard. - Computer Portable PowerPoint presentations to special lectures.
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	- Data Show projectors, smart blackboard. - Computer Portable PowerPoint presentations to special lectures.

## G. Course Quality Evaluation:

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students, faculty, program leaders and Peer Reviewer	<ul style="list-style-type: none"> <li>• Continuous monitoring by directors of program and quality assurance unit (Direct).</li> <li>• Applying Questionnaires received from the Deanship of Academic Development for Student evaluation (indirect).</li> <li>• Evaluation of course report (indirect).</li> </ul>
Extent of achievement of course learning outcomes	Students, faculty, program leaders and Peer Reviewer	<ul style="list-style-type: none"> <li>• Applying Questionnaires for Student evaluation (indirect).</li> <li>• Evaluation of course report (indirect).</li> </ul>
Quality of learning resources	Faculty, program leaders, administrative staff, independent reviewers.	<ul style="list-style-type: none"> <li>• Continuous monitoring by directors of program and quality assurance unit (Direct).</li> <li>• Applying Questionnaires for Student evaluation (indirect).</li> <li>• Evaluation of course report (indirect).</li> </ul>

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

Council / Committee	Department council - Academic Development Committee	
Reference No.	Department council NO: 2	Subject NO: 1
Date	30 /02 /1444 H	