



Course Specifications

Course Title:	Cereals Technology Products
Course Code:	2063101-3
Program:	Bachelor in Food Science and Nutrition
Department:	Food Sciences and Nutrition Department
College:	College of Science
Institution:	Taif University

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A. Course Identification:

1. Credit hours: 3 Hours
2. Course type
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"/>
3. Level/year at which this course is offered: 9 th Level / 3 rd year
4. Pre-requisites for this course (if any): Fundamentals of Food Industries (2062102-3)
5. Co-requisites for this course (if any): None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	0	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	20
3	Tutorial	---
4	Others (specify)	---
	Total	50

B. Course Objectives and Learning Outcomes:

1. Course Description

This course deals with studying the composition of different grains and identification of different operations of grain processing, studying the nutritional value and chemical composition of the flourmills products- Rheological and technological properties of flour and the possibility of using it in different products -Studying the composition of the different types of wheat- Processes of cleaning and milling- Study the flourmills products (bread's, pasta's, cake's and biscuit's industries) - Rice hit-The use of flourmills fibers for the production of special foods

2. Course Main Objective:

What is the main purpose for this course?

- 1) Recognize the different types of universal grain.
- 2) Define the grain grinding steps.

3. Course Learning Outcomes:

CLOs		Aligned PLOs
1	Knowledge and understanding	
1.1	Determines the various processes of flour production	K3
1.2	Recognize the different methods for flour quality assessment	K3
1.3	Describe various problems that occur during production processes	K3
2	Skills:	

CLOs		Aligned PLOs
2.1	Explain the composition and characteristics of flours and their products.	S3
2.2	Comparing between the different flour types for production of high quality products.	S5
3	Values:	
3.1	Committed responsibility, respect and scientific ethics towards relationships during the work	V1

C. Course Content:

No	List of Topics	Contact Hours
1	Section1: Introduction: Structure of wheat grain and Chemical composition of wheat grain	3
2	Section2: Chemical composition of wheat grain	3
3	Section3: Processing and milling of grain	3
4	Section4: The nutritional value of wheat flour and bread	3
5	Section5: Rheological properties of flour and Accurate quality measurement	3
6	Section6: Bakery products	3
7	Section7: Manufacture of pasta	3
8	Section8: The nutritional value of other grains (rice – corn - barley)	3
9	Section9: Rice hit- Starch and glucose Industry-Breakfast cereals	3
10	Section10: Technological uses of other grains	3
Total		30
Practical Topics		
1	Physical properties of wheat and Chemical analysis of wheat and wheat flour	۲
2	Assessment of wheat flour quality	۲
3	Farinograph test and Extensograph test	۲
4	Amylograph test	۲
5	Local and White bread industry and assessment of its quality.	۲
6	Biscuits' industry and assessment of its quality.	۲
7	Cakes and pasta industries	۲
8	Technological uses of other cereals.	۲
9	Moist extraction of starch	۲
10	Visits for flourmills and automated bakeries.	۲
Total		۲۰

D. Teaching and Assessment

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

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding		
1.1	Determines the various processes of flour production	- Lecturer - Practical	- Written practical and oral exams
1.2	Recognize the different methods for flour quality assessment	- Lecturer - Educational Videos - discussion	- Written practical and oral exams
1.3	Describe various problems that occur during production processes	- Practical	- Written practical exams
2.0	Skills		
2.1	Explain the composition and characteristics of flours and their products.	- Practical	- Practical and oral exams
2.2	Comparing between the different flour types for production of high-quality products.	- Lecturer	- Written exams
3.0	Values		
3.1	Committed responsibility, respect, and scientific ethics towards relationships during the work.	- Practical	- Practical exams

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:

- Each faculty member is assigned a group of students for continuous advice for a period of twenty-four office hours weekly (7 hours/week).
- Staff are available for individual student consultation during social media, WhatsApp, Blackboard

F. Learning Resources and Facilities:

1. Learning Resources

Required Textbooks	Peter C. Morris, James H. Bryce, Peter C. Morris, James H. Bryce (2008): Cereal Biotechnology Taylor & Francis Inc. CRC Press Inc, Morris, Bryce, 2008
Essential References Materials	Technology of cereals: an introduction for student of food science and agriculture 1998 * Cereals and cereal products: chemistry and technology, Dendy, Dobraszczyk, 2000. * Flour Milling, in Technology of bread making, 2nd ed. (ed. S.P. Cauvain and L.S. Young), Springer Science + Business Media, New York USA, (2007).
Electronic Materials	Journal of Cereal Science – Elsevier * http://www.cerealfacts.org/

	<ul style="list-style-type: none"> * https://www.gibedigital.com/work/cereal-partners-uk/ * http://www.fwi.co.uk/business/cereals-industry-forum-launches-new-interactive-tool.htm * http://www.cerealsindustryforum.org.uk/
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	<ul style="list-style-type: none"> • Lecture rooms with max 60 seats (must be equipped with data show facility). • Laboratory with max 30 seats (must be equipped with data show and all Lab. facility)
Technology Resources (AV, data show, Smart Board, software, etc.)	<ul style="list-style-type: none"> • Data show
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	<ul style="list-style-type: none"> • Arrange regular visits to flourmills and automated bakeries • HPLC, atomic absorption spectrophotometer, GC-MS, Viscometer, Farinograph, Extensograph, Amylograph

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
- Course evaluation by students organized every semester.	- Students	- Direct - Indirect
- Learning resources	- Program Leaders - Staff Member - Students	- Indirect
- Effectiveness of teaching and assessment	- Students - Faculty - Program leaders and Peer Reviewer	- Continuous monitoring by directors of program and quality assurance unit (Direct). - Applying Questionnaires received from the Deanship of Academic Development for Student evaluation (indirect). - Evaluation of course report (indirect).
Extent of achievement of course learning outcomes	- Students - Faculty - Program leaders and Peer Reviewer	- indirect

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: 5 Subject NO: 2
Date	08 /07 /1444 H

