



# Course Specification

## (Bachelor)

**Course Title:** Foods Analysis

**Course Code:** APFQ2106

**Program:** Intermediate Diploma in Food Quality and Safety

**Department:** Clinical Nutrition

**College:** Applied Medical Sciences

**Institution:** Umm Al-Qura University

**Version:** 3

**Last Revision Date:** 06-10-2024



## Table of Contents

A. General information about the course:.....	3
B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods.....	4
C. Course Content .....	5
D. Students Assessment Activities .....	6
E. Learning Resources and Facilities.....	6
F. Assessment of Course Quality .....	7
G. Specification Approval .....	7



## A. General information about the course:

### 1. Course Identification

1. Credit hours: ( 3 )

#### 2. Course type

A. ☐ University ☐ College ☒ Department ☐ Track ☐ Others  
B. ☒ Required ☐ Elective

3. Level/year at which this course is offered: (2<sup>nd</sup> level / 1st year)

#### 4. Course General Description:

This course introduces basics of good practices for working in chemical analysis laboratories, methods of taking and preserving samples with samples, methods for judging the quality of results, natural methods of analysis, methods of color analysis, methods of analysis using chromatography and rapid methods for judging the physical and chemical quality in food.

#### 5. Pre-requirements for this course (if any):

Principles of Food Chemistry

#### 6. Co-requisites for this course (if any):

Non

#### 7. Course Main Objective(s):

By the end of this course, the student should be able to:

1. Identify basics of good practices in chemical analysis, methods of taking and preserving samples for judging the quality of foods.
2. Apply the analysis using chromatography and rapid methods for judging the physical and chemical quality in food.
3. Outline the methods for determining moisture, carbohydrates, protein, fat and ash.

### 2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	100%
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> <li>Traditional classroom</li> <li>E-learning</li> </ul>		





No	Mode of Instruction	Contact Hours	Percentage
4	Distance learning		

### 3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	15
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		45

## B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Outline the methods for determining moisture, carbohydrates, protein, fat and ash.	K1	• Lectures  Class discussion	• Short essay • Exam
1.2	Define the good practices in chemical analysis, methods of taking and preserving samples for judging the quality of foods.	K2		
2.0	Skills			
2.1	Construct the practical methods of taking and preserving samples for judging the quality of foods.	S2	• Problem solving cases  • Brain storming sessions	• presentat ions rubric • Exam





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
2.2	Apply the analysis using chromatography and rapid methods for judging the physical and chemical quality in food.	S3		
3.0	Values, autonomy, and responsibility			
3.1	Ability to lead a team work in group discussion and course activities.	V1	-Small group work.	presentations rubric

### C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to food analysis	2
2.	Concepts of food analysis	2
3.	Moisture determination	2
4.	Ash determination	2
5.	Carbohydrates determination	4
6.	Protein determination + mid term exam	4
7.	Fat determination + mid term exam	4
8.	Determine food texture	4
9.	Determine food coloring using colorimeter and spectrometer	4
15.	Revision	2
Total		30

### Practical Topics

No	List of Topics	Contact Hours
3.	Laboratory Safety guidelines	1
4.	Preparation of solutions	2
3.	Practical moisture determination in food samples using drying oven .	2
4.	Practical ash determination	2
5.	Practical carbohydrates determination	2
6.	Practical protein determination	1
7.	Practical fat determination	2





8.	Practical determine food texture	1
9.	Practical determine food coloring using colorimeter and spectrometer	1
10.	Revision	1
Total		15

## D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm exam	6 <sup>th</sup> & 7 <sup>th</sup> Week	25%
2.	Activities & Assignments	All weeks	20%
3.	Practical assessment	15 <sup>th</sup> Week	15%
...	Final theoretical exam	16 <sup>th</sup> & 17 <sup>th</sup> Week	40%
Total			100%

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

## E. Learning Resources and Facilities

### 1. References and Learning Resources

Essential References	Suzanne S.N. Food Analysis by. 5th Ed. Pub. by Aspen . USA, 2017. ISSN: 1572-0330
Supportive References	AOAC International , Official Methods of Analysis 21 <sup>st</sup> Edition (2019)
Electronic Materials	<a href="https://sdl.edu.sa">https://sdl.edu.sa</a> <a href="https://Fao.org">https://Fao.org</a>
Other Learning Materials	-

### 2. Required Facilities and equipment

Items	Resources
<b>facilities</b> (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classrooms Food analysis lab
<b>Technology equipment</b> (projector, smart board, software)	Board Data show
<b>Other equipment</b> (depending on the nature of the specialty)	Software





## F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Student	Indirect
Effectiveness of Students assessment	Student	Direct
Quality of learning resources	Student	Indirect
The extent to which CLOs have been achieved	Peer review	Direct
Other		

**Assessors** (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify))

**Assessment Methods** (Direct, Indirect)

## G. Specification Approval

<b>COUNCIL /COMMITTEE</b>	Umm Al-Qura University Council
<b>REFERENCE NO.</b>	851141114462/190392
<b>DATE</b>	22/11/1446

