

**Ministry of Higher Education and Scientific Research  
Scientific Supervision and Scientific Evaluation Apparatus  
Directorate of Quality Assurance and Academic Accreditation  
Accreditation Department**



# **Academic Program and Course Description Guide**

**2024**

## **Introduction:**

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

## **Concepts and terminology:**

**Academic Program Description:** The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

**Course Description:** Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

**Program Vision:** An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

**Program Mission:** Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

**Program Objectives:** They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

**Curriculum Structure:** All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

**Learning Outcomes:** A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

**Teaching and learning strategies:** They are the strategies used by the faculty members to develop students’ teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

**Academic Program Description Form**

**University Name:** .....  
**Faculty/Institute:** .....  
**Scientific Department:** .....  
**Academic or Professional Program Name:** .....  
**Final Certificate Name:** .....  
**Academic System:**.....  
**Description Preparation Date:**  
**File CompletionDate:**

**Signature:**  
**Head of DepartmentName:**  
  
**Date:**

**Signature:**  
**Scientific Associate Name:**  
  
**Date:**

**The file is checked by:**  
**Departmentof Quality Assurance and University Performance**  
**Director of the Quality Assurance and UniversityPerformanceDepartment:**  
**Date:**  
**Signature:**

**Approval of the Dean**

|   |
|---|
| <b>1. Program Vision</b>  |
| Program vision is written here as stated in the university's catalogue and website. |

|  |
|--|
| <b>2. Program Mission</b>  |
| Program mission is written here as stated in the university's catalogue and website. |

### 3. Program Objectives

General statements describing what the program or institution intends to achieve.

### 4. Program Accreditation

Does the program have program accreditation? And from which agency?

### 5. Other external influences

Is there a sponsor for the program?

### 6. Program Structure

| Program Structure        | Number of Courses | Credit hours | Percentage | Reviews* |
|--------------------------|-------------------|--------------|------------|----------|
| Institution Requirements |                   |              |            |          |
| College Requirements     |                   |              |            |          |
| Department Requirements  |                   |              |            |          |
| Summer Training          |                   |              |            |          |
| Other                    |                   |              |            |          |

\* This can include notes whether the course is basic or optional.

### 7. Program Description

| Year/Level | Course Code | Course Name | Credit Hours |           |
|------------|-------------|-------------|--------------|-----------|
|            |             |             | theoretical  | practical |
|            |             |             |              |           |

### 8. Expected learning outcomes of the program

| Knowledge           |                               |
|---------------------|-------------------------------|
| Learning Outcomes 1 | Learning Outcomes Statement 1 |
| Skills              |                               |
| Learning Outcomes 2 | Learning Outcomes Statement 2 |
| Learning Outcomes 3 | Learning Outcomes Statement 3 |
| Ethics              |                               |
| Learning Outcomes 4 | Learning Outcomes Statement 4 |
| Learning Outcomes 5 | Learning Outcomes Statement 5 |

### 9. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in the implementation of the program in general.

### 10. Evaluation methods

Implemented at all stages of the program in general.

### 11. Faculty

#### Faculty Members

| Academic Rank | Specialization |         | Special Requirements/Skills (if applicable) | Number of the teaching staff |          |
|---------------|----------------|---------|---|------------------------------|----------|
|               | General        | Special |   | Staff                        | Lecturer |
|               |                |         |   |                              |          |

### Professional Development

#### Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

#### Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

### 12. Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

### 13. The most important sources of information about the program

State briefly the sources of information about the program.

### 14. Program Development Plan

### Program Skills Outline

|            |             |             |                   | Required program Learning outcomes |    |    |    |        |    |    |    |        |    |    |    |
|------------|-------------|-------------|-------------------|------------------------------------|----|----|----|--------|----|----|----|--------|----|----|----|
| Year/Level | Course Code | Course Name | Basic or optional | Knowledge                          |    |    |    | Skills |    |    |    | Ethics |    |    |    |
|            |             |             |                   | A1                                 | A2 | A3 | A4 | B1     | B2 | B3 | B4 | C1     | C2 | C3 | C4 |
|            |             |             |                   |                                    |    |    |    |        |    |    |    |        |    |    |    |
|            |             |             |                   |                                    |    |    |    |        |    |    |    |        |    |    |    |
|            |             |             |                   |                                    |    |    |    |        |    |    |    |        |    |    |    |
|            |             |             |                   |                                    |    |    |    |        |    |    |    |        |    |    |    |

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

## Course Description Form

|  |
|--|
| 1. Course Name:  |
| Principles of Food Processing  |
| 2. Course Code:  |
| PRFI111  |
| 3. Semester / Year:  |
| First Semester/First level / 2023- 2024  |
| 4. Description Preparation Date:   |
| 1/4/2024   |
| 5. Available Attendance Forms:   |
| Presence   |
| 6. Number of Credit Hours (Total) / Number of Units (Total)  |
| 2 hour theoretical + 3 hour practical ( 5 hour) / 3.5 unit   |
| 7. Course administrator's name (mention all, if more than one name)  |
| Name: Dr. Layla Azhar Ahmed<br>Email: <a href="mailto:laylaazhar@uomosul.edu.iq">laylaazhar@uomosul.edu.iq</a><br>Name :Mead Waleed Sadallah<br>Email: <a href="mailto:mead.almola1985@uomosul.edu.iq">mead.almola1985@uomosul.edu.iq</a>  |
| 8. Course Objectives   |
| <ul style="list-style-type: none"><li>• The learner should be able to define the concept of food industry science that is related to manufacture and preservation of food materials.</li><li>• Choose several preservation methods that rely on reducing the moisture content in food to stop spoilage and food spoilage.</li><li>• Differentiate between different food components.</li><li>• Understanding the basic units that make up carbohydrates, proteins and fats.</li><li>• Distinguish between essential and non-essential amino acids.</li><li>• Familiarity with the properties of unsaturated fatty acids.</li><li>• Realizing the purpose of eating food to obtain energy.</li><li>• Identify the components of meat and the difference between white and red meat.</li><li>• A comprehensive study of the various types of preservation methods and choosing the most appropriate to the taste of consumers.</li></ul> |
| 9. Teaching and Learning Strategies  |
| <ul style="list-style-type: none"><li>• Interactive lecture</li><li>• Brainstorming</li><li>• Dialogue and discussion</li><li>• Field Training</li><li>• Practical exercises</li><li>• Field project</li></ul>   |



- self education

## 10. Course Structure

| Week | Hours        | Required Learning Outcomes  | Unit or subject name   | Learning method  | Evaluation method           |
|------|--------------|---|--|--|-----------------------------|
| 1    | 2Theoretical | B1 The student explains the concept of food industry science and relationship to the manufacture and preservation of animal and plant foodst                              | The importance of food industries and how they arise and develop             | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education | Semester exam 1, final exam |
|      | 3Practical   | B1:The students are shown the importance of sugar and salt solutions in food industries, as well as specifications of salts sugars used in food manufacturing.            | "Sugar and salt solutions"   | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education | Semester exam 1, final exam |
| 2    | 2Theoretical | C1 Explains the most important factors that must be taken into consideration to establish a food processing plant   | The main food industries and the methods used in establishing a new industry | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education | Semester exam 1, final exam |
|      | 3Practical   | C1:The methods of estimating the specific gravity of sugar and salt solutions used in food industries involve using a balance, a Westphal balance, and a density bottle." | "Estimating the specific gravity of sugar and salt solutions."               | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education | Semester exam 1, final exam |
| 3    | 2Theoretical | B2 The student is aware of the importance of water to the human body and the types of water found in food   | Food ingredients, Part one   | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education | Semester exam 1, final exam |
|      | 3Practical   | B2: Understand the types of hydrometers and their utilization in estimating specific gravity concentrations, density of sugar and salt solutions in food                  | "Sugar and salt solutions (hydrometers)."                                    | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education | Semester exam 1, final exam |

|   |              |  |  |   |                                     |
|---|--------------|--|--|---|-------------------------------------|
|   |              | manufacturing.   |  |   |                                     |
| 4 | 2Theoretical | A1 The student learns about the basic components of food, such as carbohydrates, proteins, and fats  | Food ingredients, part two   | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Semester exam 1, final exam, report |
|   | 3Practical   | A1: Familiarize yourself with the types of hydrometers used to measure the saturation level of salt solutions in food manufacturing, including the salinometer. Explain the important steps to consider when using hydrometers.  | Using hydrometers to measure the saturation level of salt solutions. | Interactive lecture<br>Brainstorming<br>Dialogue and discussion<br>Self-education |                                     |
| 5 | 2Theoretical | C2 The student explains the properties of fatty acids involved in the synthesis of fats  | Division of fats as a chemical classification                        | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Semester exam 1, final exam, report |
|   | 3Practical   | C2: Furthermore, refractometers measure the refractive index of other substances such as oils and fats. The refractive index of these substances can offer insights into their purity, quality, or concentration.  | Refractometers   |   |                                     |
| 6 | 2Theoretical | C3 The student suggests a way to compare the types of dyes found in foods  | Dyes in foods  | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Short exam, final exam              |
|   | 3Practical   | C3: It suggests using the Pearson square method to prepare a specific solution, such as juices, with a certain concentration, or to adjust the concentration of a specific solution by adding calculated proportions of solute or solvent using the Pearson square method. | The Pearson square   | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Short exam, final exam              |
| 7 | 2Theoretical | C4 The student is familiar with the most important staple foods such as meat and eggs  | Main foods   | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Semester exam 2, final exam         |

|    |              |   |                                      |   |                             |
|----|--------------|---|--------------------------------------|---|-----------------------------|
|    | 3Practical   | C4: Understanding the importance of using the drying process in food manufacturing to prolong the shelf life of food products and the various drying methods employed in the food industries. | "Food preservation by drying"        | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education                | Semester exam 2, final exam |
| 8  | 2Theoretical | A2 The student learns about oils and fats and the stages of their production  | Oils and fats, part one              | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education                | Semester exam 2, final exam |
|    | 3Practical   | A2: It allows understanding the importance of food preservation by refrigeration and the steps followed in the process of refrigerating and processing fruits and vegetables.                 | "Food preservation by refrigeration" | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education                | Semester exam 2, final exam |
| 9  | 2Theoretical | B3 The student judges efficiency of oils and extraction methods   | Oils and fats, part two              | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education<br>reporting   | Semester exam 2, final exam |
|    | 3Practical   | B3: Judging the efficiency of the freezing process in food manufacturing.   | "Food preservation by freezing"      | Interactive lecture<br>Brainstorming<br>Dialogue and discussion<br>Self-education and reporting | Semester exam 2, final exam |
| 10 | 2Theoretical | A3 The student learns about the most important types of rancidity occurs in foodstuffs, especially fatty ones   | Damage to oils and fats              | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education                | Semester exam 2, final exam |
|    | 3Practical   | A3:The student becomes acquainted with the importance of using the blanching process in food preservation and the   | Blanching in food industries"        | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education                | Semester exam 2, final exam |

|    |              |  |  |   |                             |
|----|--------------|--|--|---|-----------------------------|
|    |              | significant changes and effects it induces in vegetables and fruits used in food manufacturing   |  |   |                             |
| 11 | 2Theoretical | B4 The student masters the method manufacturing various types of tea   | Tea  | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Semester exam 2, final exam |
|    | 3Practical   | B4: The student masters the practical method of assessing the efficiency of the blanching process by detecting the enzymes peroxidase and oxidase.                                   | "Evaluating the efficiency of the blanching process" | Interactive lecture<br>Brainstorming<br>Dialogue and discussion<br>Self-education | Final exam                  |
| 12 | 2Theoretical | E1 The student identifies methods for drying processing coffee seeds   | coffee   | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Final exam                  |
|    | 3Practical   | E1: The steps of making jam, methods of preserving and storing it, and the types of fruits or vegetables used in its production are identified.                                      | Jam making   | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Semester exam 2, final exam |
| 13 | 2Theoretical | A4 The student learns about the types of preservation methods  | Food preservation methods                            | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Final exam                  |
|    | 3Practical   | A4: at low temperatures Through it, one learns about the meaning of marmalade, its method, steps of production, preservation, and the key ingredients involved in its manufacturing. | "Marmalade making"                                   | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Final exam                  |
| 14 | 2Theoretical | B5 The student is familiar with the stages of food canning   | Heat preservation                                    | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education  | Short exam , Final exam     |
|    | 3Practical   | B5: It learns about the importance of  | Jelly making   | Interactive lecture   | Short exam , Final exam     |

|    |              |   |                               |  |                            |
|----|--------------|---|-------------------------------|--|----------------------------|
|    |              | knowing the method and steps of jelly making, methods of preserving and storing it, and understanding the concentrations of sweeteners and preservatives used in food industries. |                               | Brainstorming<br>Dialogue and discussion<br>Self-education                       |                            |
| 15 | 2Theoretical | E2 The student identifies the most important preservatives used in food manufacturing   | Preservatives                 | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education | Short exam ,<br>Final exam |
|    | 3Practical   | E2: Identify the most important methods used in packing and packaging fruits and vegetables, as well as the techniques for storing and then distributing them.                    | Canning fruits and vegetables | Interactive lecture<br>Brainstorming<br>Dialogue<br>discussion<br>Self-education | Short exam ,<br>Final exam |

### 11. Course Evaluation

| T  | Evaluation methods            | Evaluation date ( one week) | Grade | Relative weight % |
|----|-------------------------------|-----------------------------|-------|-------------------|
| 1  | A report 1                    | fourth week                 | 2.5   | 2.5               |
| 2  | A report 2                    | fifth week                  | 2.5   | 2.5               |
| 3  | Short test (1) Quiz           | sixth week                  | 2     | 2                 |
| 4  | Short test (2) Quiz           | The fourteenth week         | 2     | 2                 |
| 5  | Short test (3)                | The fifteenth week          | 1     | 1                 |
| 6  | semester test ( 1)            | sixth week                  | 7.5   | 7.5               |
| 7  | semester test ( 2)            | eleventh week               | 7.5   | 7.5               |
| 8  | Final theoretical test        | Final theoretical exam      | 40    | 40                |
| 9  | Practical field project       | The fifteenth week          | 5     | 5                 |
| 10 | Laboratory evaluation         | third and fifth week        | 2     | 2                 |
| 11 | Practical short test (1) Quiz | First week                  | 1     | 1                 |
| 12 | Practical short test (2) Quiz | fourth week                 | 0.5   | 0.5               |
| 13 | Practical short test (3) Quiz | The fourteenth week         | 1     | 1                 |
| 14 | Live drawings and homework    | 6,8,9,10,11,12,13 weeks     | 5.5   | 5.5               |
| 15 | Final practical test          | Final practical exam        | 20    | 20                |
|    | Total                         | 100                         | 100   | 100               |

### 12. Learning and Teaching Resources

|  |  |
|--|--|
| Required textbooks (curricular books, if any)                      | Al-Aswad, M.B. , Abdul-Azis, O. F. and Soulaka. (2000). Principles of Food Processing. Dar Al-Kutub for Printing and Publishing . University of Mosul. |
| Main references (sources)  | /  |
| Recommended books and references (scientific journals, reports...) | /  |

