

**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: University of Technology

Faculty/Institute: Department of Computer Science

Scientific Department: Information System Branch

Academic or Professional Program Name: Information System

Final Certificate Name: B.Sc. in in Computer Science/ Information Systems

Academic System: Courses

Description Preparation Date: 25/3/2024

File Completion Date: 25/3/2024

Signature: 

Head of Department Name:

Ekhlas Falih Naser

Date: 1/4/2024

Signature: 

Scientific Associate Name:

Abeer Tariq Maolood

Date: 2/4/2024

The file is checked by: Nada Najeel Kamal

Quality Assurance and Performance Evaluation Division

Director of the Quality Assurance and Performance Evaluation Division

Date: 1/4/2024

Signature: 

Approval of the Dean

Prof. Dr. Alaa Kadhim Farhan

2024/4/4

## 1. Program Vision

The department's vision in the foreseeable future is to follow up on rapid developments in the field of computer science, information systems branch, and their applications in the department's curricula, and to graduate qualified and efficient cadres in the field of build and design systems.

## 2. Program Mission

The Information Systems Branch was established in 1997 within the branches of Computer Science. Its graduates work in the field of designing and building systems and databases, as well as designing and updating websites. They also study the concepts of building systems within security specifications and protection from hackers by teaching students the basic concepts in data security.

## 3. Program Objectives

The objectives of the educational program for the Information Systems Branch can be summarized as follows:

1. The first goal: scientific building for students in the field of designing and building database systems and training students on how to manage projects.
2. The second goal: Teach students to build advanced databases that keep pace with the current developments, deal with the World Wide Web, and design and update websites.
3. Third goal: Study the concepts of building systems within security specifications and protection from hackers by teaching students the basic concepts in data security.
4. Fourth goal: Teach students the modern programming languages that support the information system branch, the most important of which is ORACAL

## 4. Program Accreditation

Does the program have program accreditation? And from which agency? **No**

## 5. Other external influences

Is there a sponsor for the program? **No**

## 6. Program Structure

| Program Structure        | Number of Courses | Credit hours                            | Percentage | Reviews* |
|--------------------------|-------------------|---|------------|----------|
| Institution Requirements | 6                 | Depending on the course between 3 and 1 | 14%        | Basic    |
| College Requirements     | 15                | Depending on the course between 2 and 3 | 33%        | Basic    |
| Department Requirements  | 21                | Depending on the course between 2 and 3 | 50%        | Basic    |
| Summer Training          | yes               | -                                       | -          | -        |
| Other                    | 1                 | 3                                       | 3%         | Basic    |

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

## 7. Program Description

| Year/Level | Course Code | Course Name                        | Credit Hours |           |
|------------|-------------|------------------------------------|--------------|-----------|
|            |             |                                    | theoretical  | practical |
| 2023-2024/ | CSCL2112    | Object Oriented Programming 1      | 2            | 2         |
|            | CSCL2114    | Data Structures                    | 2            | 2         |
|            | CSCL2116    | Mathematics 3                      | 2            |           |
|            | CSCL2118    | Database Foundation                | 2            | 2         |
|            | CSIS2104    | Projects Management                | 2            |           |
|            | CSCL2123    | Crimes of the Baath Regime in Iraq | 2            |           |
|            | CSCL2213    | Object oriented programming2       | 2            | 2         |
|            | CSCL2215    | Sorting and Searching Algorithms   | 2            | 2         |

|                               |   |   |          |          |
|-------------------------------|---|---|----------|----------|
| <b>Second</b>                 | <b>CSCL2217</b>                         | <b>Numerical Analysis</b>               | <b>2</b> | <b>2</b> |
|                               | <b>CSCL2219</b>                         | <b>DataBase Design</b>                  | <b>2</b> | <b>2</b> |
|                               | <b>CSIS2205</b>                         | <b>System Analysis and Design</b>       | <b>2</b> | <b>2</b> |
|                               | <b>CSIS2206</b>                         | <b>IT Projects Management</b>           | <b>2</b> | <b>2</b> |
|                               | <b>CSCL2224</b>                         | <b>Human Right and Democracy</b>        | <b>2</b> |          |
|                               | <b>CSCL2222</b>                         | <b>English Language 2</b>               | <b>2</b> |          |
| <b>2023–2024 /<br/>Third</b>  | <b>CSCL3123</b>                         | <b>Microprocessor</b>                   | <b>2</b> | <b>2</b> |
|                               | <b>CSCL3125</b>                         | <b>Computation Theory</b>               | <b>2</b> |          |
|                               | <b>CSCL3127</b>                         | <b>Operations Research</b>              | <b>2</b> |          |
|                               | <b>CSCL3129</b>                         | <b>Knowledge Representation</b>         | <b>2</b> | <b>2</b> |
|                               | <b>CSIS3107</b>                         | <b>Distributed database</b>             | <b>2</b> | <b>2</b> |
|                               | <b>CSIS3109</b>                         | <b>Computer Graphic</b>                 | <b>2</b> | <b>2</b> |
|                               | <b>CSIS3111</b>                         | <b>Web Information Systems</b>          | <b>2</b> | <b>2</b> |
|                               | <b>CSCL3133</b>                         | <b>English Language 3</b>               | <b>2</b> |          |
|                               | <b>CSCL3224</b>                         | <b>Computer Architecture</b>            | <b>2</b> | <b>2</b> |
|                               | <b>CSCL3226</b>                         | <b>Compiler Design</b>                  | <b>2</b> | <b>2</b> |
|                               | <b>CSCL3228</b>                         | <b>Optimization</b>                     | <b>2</b> |          |
|                               | <b>CSCL3230</b>                         | <b>Intelligent Searching Techniques</b> | <b>2</b> | <b>2</b> |
|                               | <b>CSIS3208</b>                         | <b>Data Warehouse</b>                   | <b>2</b> |          |
|                               | <b>CSIS3210</b>                         | <b>Geographic Information System</b>    | <b>2</b> | <b>2</b> |
| <b>CSIS3212</b>               | <b>Business Application Development</b> | <b>2</b>                                | <b>2</b> |          |
| <b>2023–2024 /<br/>Fourth</b> | <b>CSCL4134</b>                         | <b>Static Web Programming</b>           | <b>2</b> | <b>2</b> |
|                               | <b>CSCL4136</b>                         | <b>Operating System 1</b>               | <b>2</b> | <b>2</b> |
|                               | <b>CSCL4138</b>                         | <b>Data Security 1</b>                  | <b>2</b> | <b>2</b> |
|                               | <b>CSIS4113</b>                         | <b>Computer networking</b>              | <b>2</b> | <b>2</b> |
|                               | <b>CSIS4115</b>                         | <b>Soft Computing</b>                   | <b>2</b> | <b>2</b> |
|                               | <b>CSIS4116</b>                         | <b>Management Information System</b>    | <b>2</b> | <b>2</b> |
|                               | <b>CSCL4235</b>                         | <b>Dynamic Web Programming</b>          | <b>2</b> | <b>2</b> |
|                               | <b>CSCL4237</b>                         | <b>Operating System 2</b>               | <b>2</b> | <b>2</b> |
|                               | <b>CSCL4239</b>                         | <b>Data Security 2</b>                  | <b>2</b> | <b>2</b> |
|                               | <b>CSIS4214</b>                         | <b>Cloud computing foundations</b>      | <b>2</b> |          |
|                               | <b>CSIS4217</b>                         | <b>Data Analysis Methods</b>            | <b>2</b> | <b>2</b> |
|                               | <b>CSIS4218</b>                         | <b>Accounting information Systems</b>   | <b>2</b> |          |
|                               | <b>CSCL444</b>                          | <b>Project</b>                          |          | <b>6</b> |
|                               | <b>CSCL4242</b>                         | <b>English Language 4</b>               | <b>2</b> |          |



## 8. Expected learning outcomes of the program

### A. Knowledge

1. Learn modern programming languages that support the systems branch
2. Learn the basic concepts of networks and how to employ them in the information systems branch.
3. Understand the basics of data security.
4. Learn the methods and techniques of project management.

### B. Skills

1. Programming skills.
2. Ability to analyze and design systems
3. Managing projects and activating them on the Internet
4. Understanding the basics of dealing with information technology

### C. Ethics

#### Teaching and learning methods

- 1- Adopting an evaluation of the student's participation in the classroom
- 2- Daily and weekly tests
- 3- Semester test
- 4- Commitment to attendance and adherence to modest uniform

## 9. Teaching and Learning Strategies

1. Methodical books, sources (internet and library), and lectures supported by illustrative examples.
2. Theoretical lectures, laboratories, practical tasks, using modern devices to present practical ideas to students (data presentation, electronic board).
3. Discussions and asking questions.

## 10. Evaluation methods

1. Written exam
2. laboratory exam,
3. quarterly projects,
4. Special studies

## 11. Faculty

### Faculty Members

| Academic Rank           | Specialization |         | Special Requirements/Skills (if applicable) | Number of the teaching staff |          |
|-------------------------|----------------|---------|---|------------------------------|----------|
|                         | General        | Special |   | Staff                        | Lecturer |
| Dr. Professor           | √              |         |   | √                            |          |
| Dr. Assistant Professor | √              |         |   | √                            |          |
| Dr. Assistant Professor |                | √       |   | √                            |          |
| Dr. Assistant Professor |                | √       |   | √                            |          |
| Dr. Assistant Professor | √              |         |   | √                            |          |
| Dr. Assistant Professor | √              |         |   | √                            |          |
| Dr. Lecturer            | √              |         |   | √                            |          |
| Dr. Lecturer            | √              |         |   | √                            |          |
| MSc. Lecturer           | √              |         |   | √                            |          |
| MSc. Lecturer           | √              |         |   | √                            |          |
| MSc. Lecturer           | √              |         |   | √                            |          |
| MSc. Assist Lecturer    | √              |         |   | √                            |          |
| MSc. Assist Lecturer    | √              |         |   | √                            |          |
| MSc. Assist Lecturer    | √              |         |   | √                            |          |

## **Professional Development**

### **Mentoring new faculty members**

1. Involve them in training courses
2. Graduate Studies
3. Participation in seminars and conferences

### **Professional development of faculty members**

1. Research and projects
2. Participation in seminars and conferences

## **12. Acceptance Criterion**

**central**

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

1. Labor market needs
2. Keeping pace with global development in this field
3. <https://cs.uotechnology.edu.iq/index.php/branches/is>

## **14. Program Development Plan**

Using new concepts in the field of information system in special and Relying on modern languages and software to build and manage information systems that are compatible with the labor market

### 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 |
| <b>2023-2024/<br/>Second</b> | CSCL2112    | Object Oriented Programming 1      | Basic             | √                                  | √  | √  | √  | √      | √  | √  |    | √      | √  | √  | √  |
|                              | CSCL2114    | Data Structures                    | Basic             | √                                  | √  | √  | √  | √      | √  | √  |    | √      | √  | √  | √  |
|                              | CSCL2116    | Mathematics 3                      | Basic             | √                                  | √  | √  | √  | √      | √  | √  |    | √      | √  | √  |    |
|                              | CSCL2118    | Database Foundation                | Basic             | √                                  | √  | √  | √  | √      | √  |    |    | √      | √  |    |    |
|                              | CSIS2104    | Projects Management                | Basic             | √                                  | √  | √  | √  | √      | √  | √  | √  | √      | √  |    |    |
|                              | CSCL2123    | Crimes of the Baath Regime in Iraq | Basic             | √                                  | √  | √  | √  | √      | √  | √  | √  | √      | √  | √  | √  |
|                              | CSCL2213    | Object oriented programming2       | Basic             | √                                  | √  | √  | √  | √      | √  | √  |    | √      | √  | √  | √  |
|                              | CSCL2215    | Sorting and Searching Algorithms   | Basic             | √                                  | √  |    |    | √      | √  | √  |    | √      | √  | √  | √  |
|                              | CSCL2217    | Numerical Analysis                 | Basic             | √                                  | √  | √  | √  | √      | √  | √  | √  | √      | √  | √  |    |
|                              | CSCL2219    | DataBase Design                    | Basic             | √                                  | √  | √  | √  | √      | √  |    |    | √      | √  |    |    |
|                              | CSIS2205    | System Analysis and Design         | Basic             | √                                  | √  | √  | √  | √      | √  |    | √  | √      | √  | √  |    |
|                              | CSIS2206    | IT Projects Management             | Basic             | √                                  | √  | √  | √  | √      | √  | √  | √  | √      | √  | √  |    |

|                   |          |                                  |       |   |   |   |   |   |   |   |   |   |   |   |   |  |
|-------------------|----------|----------------------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|--|
|                   | CSCL2224 | Human Right and Democracy        | Basic | √ | √ | √ |   | √ | √ | √ |   | √ | √ |   |   |  |
|                   | CSCL2222 | English Language 2               | Basic | √ | √ | √ |   | √ | √ |   |   | √ | √ | √ | √ |  |
| <b>2023-2024/</b> | CSCL3123 | Microprocessor                   | Basic | √ | √ | √ |   | √ | √ |   |   | √ | √ |   |   |  |
|                   | CSCL3125 | Computation Theory               | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |   |  |
|                   | CSCL3127 | Operations Research              | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |  |
|                   | CSCL3129 | Knowledge Representation         | Basic | √ | √ |   |   | √ | √ | √ | √ | √ | √ |   |   |  |
|                   | CSIS3107 | Distributed database             | Basic | √ | √ | √ | √ | √ | √ |   |   | √ | √ |   |   |  |
|                   | CSIS3109 | Computer Graphic                 | Basic | √ | √ | √ |   | √ | √ |   |   | √ | √ |   |   |  |
| <b>Third</b>      | CSIS3111 | Web Information Systems          | Basic | √ | √ | √ | √ | √ | √ |   | √ | √ | √ |   |   |  |
|                   | CSCL3133 | English Language 3               | Basic | √ |   |   |   | √ |   |   |   | √ |   |   |   |  |
|                   | CSCL3224 | Computer Architecture            | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |   |  |
|                   | CSCL3226 | Compiler Design                  | Basic | √ | √ | √ |   | √ | √ |   |   | √ | √ |   |   |  |
|                   | CSCL3228 | Optimization                     | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |  |
|                   | CSCL3230 | Intelligent Searching Techniques | Basic | √ | √ | √ | √ | √ | √ |   |   |   | √ | √ |   |  |
|                   | CSIS3208 | Data Warehouse                   | Basic | √ | √ | √ | √ | √ | √ | √ | √ |   | √ | √ |   |  |
|                   | CSIS3210 | Geographic Information System    | Basic | √ | √ | √ |   | √ | √ | √ |   |   | √ | √ | √ |  |
|                   | CSIS3212 | Business Application Development | Basic | √ | √ | √ | √ | √ | √ |   |   |   | √ | √ |   |  |

|                   |          |                                |       |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------|----------|--------------------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>2023-2024/</b> | CSCL4134 | Static Web Programming         | Basic | √ | √ | √ |   | √ | √ |   |   | √ | √ | √ | √ |
|                   | CSCL4136 | Operating System 1             | Basic | √ | √ | √ | √ | √ | √ |   | √ | √ |   |   | √ |
|                   | CSCL4138 | Data Security 1                | Basic | √ | √ | √ | √ | √ |   |   | √ | √ |   |   | √ |
|                   | CSIS4113 | Computer networking            | Basic | √ | √ | √ | √ | √ |   |   | √ | √ |   |   | √ |
|                   | CSIS4115 | Soft Computing                 | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
|                   | CSIS4116 | Management Information System  | Basic | √ | √ | √ |   | √ | √ |   |   | √ | √ | √ | √ |
| <b>Fourth</b>     | CSCL4235 | Dynamic Web Programming        | Basic | √ | √ | √ | √ | √ | √ |   |   | √ |   |   |   |
|                   | CSCL4237 | Operating System 2             | Basic | √ | √ | √ |   | √ | √ |   |   | √ | √ | √ | √ |
|                   | CSCL4239 | Data Security 2                | Basic | √ | √ | √ | √ | √ | √ |   | √ | √ |   |   | √ |
|                   | CSIS4214 | Cloud computing foundations    | Basic | √ | √ | √ | √ | √ |   |   | √ | √ |   |   | √ |
|                   | CSIS4217 | Data Analysis Methods          | Basic | √ | √ |   | √ | √ |   |   | √ | √ |   |   | √ |
|                   | CSIS4218 | Accounting information Systems | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
|                   | CSCL444  | Project                        | Basic | √ | √ | √ | √ | √ | √ | √ |   | √ | √ | √ | √ |
|                   | CSCL4242 | English Language 4             | Basic | √ | √ |   | √ | √ |   |   | √ | √ |   |   | √ |

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

