# Academic Program Description

## Description of the decision

This course description provides a summary of the most important course characteristics and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

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|---|---|
| Tikrit University / Computer Science and Mathematics | **University Name .1** |
| Computer science | **Faculty/Institute .2** |
| Operating System 1 | **Subject name .3** |
| presence | **Attendance .4** |
| 2024 / 2023 Course 1 | **Year .5** |
| 30 lab and 30 theories | **Hours .6** |

**7- goals**

Operating system is an important part of any computer system. Therefore, this course illustrates the concepts of operating systems and how they are designed and installed. It also explains how to describe the operational and practical behavior and methods of scheduling between them.

## 8- Course outcomes and teaching, learning and evaluation methods

### Cognitive goals

Understand the concepts of operating systems and their architecture

### Skills objectives for the course

Knowledge of the internal structure of digital computer operating systems

### Teaching and learning methods

Theoretical lectures
Practical lectures

### Evaluation methods

1 Diagnostic evaluation (daily exam)
2. Assigning grades for homework
3. Formative assessment through quarterly examinations
4. Final evaluation through final exams

### Emotional and value goals

The student's knowledge and understanding of the foundations of operating systems

## 7. بنية المقرر

| Number of teaching hours | | Curriculum vocabulary | week |
|---|---|---|---|
| lab | Theory | | |
| 2 | 2 | Introduction to operating systems | .1 |
| 2 | 2 | Type of operating systems | .2 |
| 2 | 2 | Batch systems, Time-sharing system, Personal computer systems, Parallel systems, Real-time systems, Distributed systems. | .3 |
| 2 | 2 | Computer system structures. | .4 |
| 2 | 2 | Computer system operation, Hardware protection, Operating system structures. | .5 |
| 2 | 2 | Operating system services, System calls, System programs. | .6 |
| 2 | 2 | System structure, Simple structure, Layered approach, Microkernels. | .7 |
| 2 | 2 | Process concept, Process scheduling. | .8 |
| 2 | 2 | Cooperating processes, Interprocess communication. | .9 |
| 2 | 2 | CPU scheduling, basic concepts, scheduling criteria. | .10 |
| 2 | 2 | Scheduling algorithms, FSFC, SJF. | .11 |
| 2 | 2 | Scheduling algorithms, Priority scheduling, Round robin. | .12 |
| 2 | 2 | Multilevel queue scheduling, multilevel feedback queues scheduling multiple process scheduling. | .13 |
| 2 | 2 | Review | .14 |
| 2 | 2 | Review | .15 |

## Infrastructure.8

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|---|---|
| A. Silberschatz, P. B. Galvin, and G. Gagne, *Operating System Concepts*, 9th ed., USA: John Wiley & Sons, Inc., 2013. | Required prescribed books -1 |
| | Main references (sources) -2 |

| | |
|---|---|
| no | Recommended books and references (scientific journals, reports, etc.) |