

*Kurdistan Region - Iraq
Cihan University –Sulaymaniyah
Collage of Science
Department of Computer Science*



إقليم كردستان – العراق
جامعة جيهان – السليمانية
كلية العلوم
قسم علوم الحاسوب

Program Curriculum (2023-2024)

**Bachelor's level -Honors Bachelor Degree in Computer
Science**

Inspired by Bologna Process

**Collage of Science
Department of computer science
Cihan University Sulaimaniya**



Department of Computer Science

College of Science

University of Cihan- Sulaimanyia Campus

Subject: Logic Design

Course Book – Year 1st.

Lecturer's name Dr.Lway Faisal (BSc, MSc, PhD)

Academic Year: 2023/2024

Logic Design (CUE31012)

1. Information on the Programme

1.1. Higher Education Institution	<i>Cihan University Sulaimaniya</i>
1.2. College	<i>Science</i>
1.3. Department	<i>Computer Science</i>
1.4. Field of Study	<i>Logic Design</i>
1.5. Cycle of Study¹	<i>2</i>
1.6. Specialization/ Study Programme	<i>Computer Science</i>
1.7. Form of Education	<i>Full Time</i>

2. Information on the Discipline

2.1. Discipline Name	<i>Computer Skills</i>
2.2. Code	<i>CUE31012</i>
2.3. Language:	<i>English</i>
2.4. (Theory) Lecturer E-mail: Tel: Webpage, Google Classroom	<i>Assistant Professor Dr.Lway Faisal Abdulrazak</i> <i><u>lway.faisal@sulicihan.edu.krd</u></i> <i>009647700616304</i> <i><u>https://uni.sulicihan.edu.krd/qa/profile.php?id=64</u></i>
2.5. Practical/Seminar/ Laboratory/ Project Lecturer e-mail: Tel: Webpage, Google Classroom	<i>Assistant Professor Dr.Lway Faisal Abdulrazak</i> <i><u>lway.faisal@sulicihan.edu.krd</u></i> <i>009647700616304</i> <i><u>https://uni.sulicihan.edu.krd/qa/profile.php?id=64</u></i>

3. Total estimated time (Teaching Hours per Semester)

Total Contact Hours:	52										
Total Self Study Hours:	83										
Total No. Hours:	135										
ECTS:	5.00										
No. of Weeks	Contact Hours					Self-Study					
	Theoretical	Practical	Lab.	Project	Visit	Quiz	Reading	Assignment	Report	Midterm Exam.	Final Exam.
1 st Week (Registration)	-	-	-	-	-	-	-	-	-	-	-
2 nd Week	2	2					2			10	20
3 rd Week	2	2					2		4		
4 th Week	2	2					2				
5 th Week	2	2					2	2			
6 th Week	2	2					2		4		
7 th Week	2	2					2				
8 th Week	2	2					2				
9 th Week	2	2				2	2		4	10	
10 th Week	2	2					2				
11 th Week	2	2					2				
12 th Week	2	2					2				
13 th Week	2	2					2		1		
14 th Week	2	2					2				
15 th Week (Final Exam.)		-	-	-	-	-	-	-	-	-	
16 th Week (Final Exam.)		-	-	-	-	-	-	-	-	-	-
TOTAL	26	26	0	0	0	2	26	2	13	20	20

4. Prerequisites (if applicable)

4.1 Curriculum-Related	<i>Logic Design</i>
4.2 Skills-Related	<i>Logic Design laboratory + Arduino board lab</i>

5. Conditions (if applicable)

5.1. For the Theoretical	<ol style="list-style-type: none"> 1. Read and comprehend the textbook material. 2. Attend all the classes and take notes on class discussions. 3. Actively participate in class discussions and activities. 4. Submit all the assignments and the project on time. 5. Pass tests and quizzes.
5.2. For the Practical	All students are normally required to attend the Lab; take part in lectures through applying the exercises on the computer or as quizzes, and to implement projects.

6. Cumulated Specific Competences

Professional Competencies	<ul style="list-style-type: none"> • The course will help students to analyze basic combinational logic circuits and write the Boolean output expression for any combinational logic circuit as well as studying the fundamentals of sequential logic devices such as Latch and Flip-Flop. In addition, this course will enable students to describe the difference between an Asynchronous and Synchronous Counter as well as to identify the basic forms of data movement in shift registers.
Transversal competences	<ul style="list-style-type: none"> • The basic concept of number systems, logic gates, logic circuits, and logic applications.

7. Discipline Objectives (Based on the cumulated specific Competences)

7.1. General Objective	<p>After going through this lesson, you would be able to:</p> <ul style="list-style-type: none"> • Be able to design a logic circuits required for computer applications.
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8. Content

Week	8.1. Theoretical-Number of Hours	Teaching methods	Observation
1	Registration		
2	Master slave combinational system+ Lab	lecture	1 lecture = 2 hours
3	<u>Logic gates operation</u> + Lab	lecture,	1 lecture = 2 hours
4	Logic algebra 1+ Lab	lecture	1 lecture = 2 hours
5	Logic algebra 2+ Lab	lecture, assignment	1 lecture = 2 hours
6	Logic algebra 3 + Lab	lecture	1 lecture = 2 hours
7	MIDTERM EXAM 1		
8	7 segment decoder + Lab	lecture	1 lecture = 2 hours

9	7 segment decoder+ Lab	lecture, Quiz	<i>1 lecture = 2 hours</i>
10	K-maps+ Lab	Lecture,	<i>1 lecture = 2 hours</i>
11	MIDTERM EXAM 2		
12	Flip-Flop + Lab	lecture	<i>1 lecture = 2 hours</i>
13	Counters + Lab	lecture	<i>1 lecture = 2 hours</i>
14	Registers+ Lab	lecture	<i>1 lecture = 2 hours</i>

9. Assessment

<i>Type of Activity</i>	<i>9.1. Assessment Criteria²</i>	<i>9.2. Assessment Type</i>	<i>9.3. Percentage of the final Grade</i>
9.4. Theoretical	Mid-term (30%)	Exam	%30
9.5. Practical/ Seminar/Laboratory	Final-Exam (40%)	Exam	%40
9.6. Activity during Semester	Quizzes (15%) + Assignment (15%)	Exam	%30
<i>Minimum performance Standards:</i>			

<i>Theoretical Lecturer</i>	<i>Dr.Lway Faisal</i>
Practice Lecturer	<i>Dr.Lway Faisal</i>

<i>Approved by the Curriculum development Committee:</i>	
1	<i>Asst. Prof. Dr. Lway Faisal Abdulrazak</i>
2	<i>Asst. Lec. Sadeer Dheyaa Abdulameer</i>
3	
Head of the Department/ Dean	<i>Asst. Prof. Dr. Lway Faisal Abdulrazak</i>