Course Description Form

1. Course Name
Digital Electronics
2. Course Code
WBM-41-06
3. Semester/Year
Quarterly
4. Date of preparation of this description
2024\9\23
5. Available attendance forms
Weekly (theoretical)
6. Number of credit hours (total) / total number of units
60 Theoretical Hours / 3 Units
7. Course Administrator Name
Name: Dr :Hussien kaream Email: hussien.kaream@uowa.iq
8. Course Objectives

Course Objectives:	• This course description provides a brief summary of the most important characteristics the course and the learning outcomes expected the student to achieve, proving whether he has made the most of the available learning opportunities. It must be linked to the program description.

1. Teaching and learning strategies	
Strategy	The student's ability to analyze, apply and arrange knowledge so that he can impose assumptions and interpretation as well as describe solutions. The ability to learn simple and deep in exploring knowledge and focusing on the application of knowledge to solve existing problems.Discrimination that the test increases the student's motivation towards study and is not a means of punishment for him.

2. Course Structure

The week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	12 hours	Knowledge of circuit design Special Electronic MUX and Pal DUX	Introduction to Digital Electronics; Number Systems and Codes	Lectures / Assignments / Open Discussion / Real-life	Exams / Assignments / Quick Exams / Seminars

		represent the same number in counting systems, (decimal, octal, hexadecimal, binary) as well as converting the number from one counting system to another		Examples	and Discussions
4-6	12 hours	Learn logic gates (truth table, symbol, and action) As well as learning Boolean algebra and DeMorgan's theorem	Boolean Algebra and Logic Gates	Lectures / Assignments / Open Discussion / Real-life Examples Practical connectivity	Exams / Assignments / Quick Exams / Seminars and Discussions
7	4 hours	Rules of methods of writing logical equations in both forms (SOP, POS)	Rules of methods of writing logical equations in both forms (SOP, POS	Lectures / Assignments / Open Discussion / Real-life Examples Practical connectivity	Exams / Assignments / Quick Exams / Seminars and Discussions
8-9	8 hours	Karnaugh maps (2-variables, 3-variables, 4- and 5-variables Don't care	Karnaugh maps (2-variables, 3-variables, 4- and 5-variables Don't care	Lectures / Assignments / Open Discussion / Real-life Examples Practical connectivity	Exams / Assignments / Quick Exams / Seminars and Discussions
10	4 hours	Arithmetic operations (adder, parallel binary adder)	Arithmetic operations (adder, parallel binary adder) half and full	Lectures / Assignments / Open Discussion /	Exams / Assignments / Quick Exams /

		half and full adder	adder	Real-life Examples Practical connectivity	Seminars and Discussions
11	4 hours	Design of Combinational Logic Circuit	Combinational Logic Circuit	Lectures / Assignments / Open Discussion / Real-life Examples Practical connectivity	Exams / Assignments / Quick Exams / Seminars and Discussions
12-14	12	Design of Encoder and Decoder, Multiplexer and Demultiplexer	Encoder and Decoder, Multiplexer and Demultiplexer	Lectures / Assignments / Open Discussion / Real-life Examples Practical connectivity	Exams / Assignments / Quick Exams / Seminars and Discussions
15	4	Design Comparator and code conversions	Comparator and code conversions	Lectures / Assignments / Open Discussion / Real-life Examples Practical connectivity	Exams / Assignments / Quick Exams / Seminars and Discussions

3. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... etc	
4. Learning and Teaching Resources	
1- Required textbooks	Digital logic and computer Design by Morris Mano
2- Main references (sources)	Digital Fundamental by Thomas L. Floyd
a) Recommended books and references (scientific journals, reports, ...)	Scientific journals in the specialty
b) Electronic references, websites, ...	Websites specialized in studying the material