

Course Description Form

<p>1. Course Name: Digital Electronics I</p> <p>2. Course Code: MED-406</p> <p>3. Semester / Year: First semester- 2025 - 2026</p> <p>4. Description Preparation Date: 1-12-2025</p> <p>5. Available Attendance Forms: Class Attendance</p> <p>6. Number of Credit Hours (Total) / Number of Units (Total) 56 \ 3</p> <p>7. Course administrator's name (mention all, if more than one name) Name: Qayssar Ayad Ahmed Email: qayssar.ayad@uowa.edu.iq</p> <p>8. Course Objectives</p>					
Course Objectives	<ul style="list-style-type: none"> •Building the student scientifically and qualifying him to understand the principles of Digital electronics and its applications in some scientific and engineering fields. •Urging the student to be creative and think about specialization projects and keep pace with the development taking place in this field in terms of the basis of digital electronics in engineering work systems. •Identify the types of digital electronics and some of their practical applications. 				
<p>9. Teaching and Learning Strategies</p>					
Strategy	<p>The main strategy that will be adopted in developing the main features of this module to encourage student's participation in the exercises, while at the same time refining and expanding their critical thinking skill. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.</p>				
<p>10. Course Structure</p>					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1-2	4	Learning Outcomes: 1, 2	Binary systems, binary numbers, octal numbers and hex numbers,	Lectures DATA SHOW	Quizzes and classroom activities
3-4	4	Learning Outcomes: 1, 2	number base conversions, complements, signed numbers, binary codes,	Lectures DATA SHOW	Quizzes and classroom activities
5-6	4	Learning Outcomes: 1, 2	AND, OR, NOT, XOR, XNOR	Lectures DATA SHOW	Quizzes and classroom activities
7-8	4	Learning Outcomes: 1, 2	SOP, POS, NAND and NOR implementation,	Lectures DATA SHOW	Quizzes and classroom activities
9-10	4	Learning Outcomes: 1, 2	K-map, don't care, combinational logic circuits, analysis and design procedure	Lectures DATA SHOW	Quizzes and classroom activities
11-12	4	Learning Outcomes: 1, 2	binary adders and subtraction, decimal adders, comparators	Lectures DATA SHOW	Quizzes and classroom activities
13-14	4	Learning Outcomes: 1, 2	decoders, encoders, multiplexers, Demultiplexers	Lectures DATA SHOW	Quizzes and classroom activities

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

Quizzes (4%), Assignment (3%), lab. (10%), attendance (3%), Mid exam (30%),
FINAL exam (50%)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Thomas-L.-Floyd-Digital-Fundamentals-Prentice-Hall-2015
Main references (sources)	Thomas-L.-Floyd-Digital-Fundamentals-Prentice-Hall-2015
Recommended books and references (scientific journals, reports...)	Internet files. All solid scientific journals and sites that are related to the broad concept of digital electronics.
Electronic References, Websites	Tracking Scientific websites to view recent developments in the prescribed subject For fourth year students.