MODULE DESCRIPTION FORM

Module Name:	
Digital Electronics II	
Module Code:	
WBM-42-06	
Semester / Year:	
Second Semester- 2026	
Date of Preparation of this Description:	
11-2-2026	
Available Attendance Formats:	
Class Attendance	
Total Credit Hours / Total Units:	
56 \ 3	
Name of the Course Coordinator (if there are multiple names):	
Qayssar Ayad Ahmed qayssar.ayad@uowa.edu.iq	
Module Objectives:	
Module Objectives	1- Building the student scientifically and qualifying him to understand the principles of Digital electronics and its applications in some scientific and engineering fields. 2- 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. 3- Identify the types of digital electronics and some of their practical applications.
1. **Teaching and Learning Strategy**	
Strategy:	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.

2. Module Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	Latches and flip flops	S-R FF, D FF, J-K FF, and T FF, applications	Lectures DATA SHOW	Surprise exams and classroom activities
3-4	4	Counters, asynchronous counter	(ripple counters), up-down counters,	Lectures DATA SHOW	Surprise exams and classroom activities
5-6	4	Synchronous counters	design, up-down) counters mod-counters, applications	Lectures DATA SHOW	Surprise exams and classroom activities
7-8	4	Registers	shift register, serial in/serial out, serial in/parallel out, parallel in/parallel out, parallel in /serial out	Lectures DATA SHOW	Surprise exams and classroom activities
9-10	4	Ring counter, Johanson counters, applications	applications, square wave generators, one shot	Lectures DATA SHOW	Surprise exams and classroom activities
11-12	4	A/D and D/A	Explanation and applications of conversions	Lectures DATA SHOW	Surprise exams and classroom activities
13-14	4	Memory types	RAM, ROM, flash RAM.	Lectures DATA SHOW	Surprise exams and classroom activities

3. Module Evaluation

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

4. 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.

Head of the Department

Dr. Osama Abdulbari

العميد

أ.م.د.حسين هادي حسين

عميد كلية الهندسة

م.م قيصر آياد