Unit Description Form

Course Description Form

Faculty of Engineering / Department of

	Unit Information	
	Course Information	

			Unit delivery
Unit Title	**Microprocessors**		نظريه ☒ حاضر ☒ المختبر ☒ تعليمي ☐ عملي ☐ ☐ Seminar
Unit Type	**fundamental**		
Unit Code	BME-51-6		
ECTS Credits	**8**		
SWL (ساعة / SEM)	**30**		

Unit level	3	**Delivery Semester**		2
Department of Administration	Biomedical	**College**		Engineering
Unit Commander	Hussein Abdul karim	**E-mail Address**		hussein.abd@uowa.edu.iq
Title of Unit Commander	Assistant Doctor	**Unit Commander Qualifications**		Doctor
Unit Teacher		**E-mail Address**		
Peer Reviewer Name		**E-mail Address**		E-mail Address
Date of accreditation of the Scientific Committee	26/9/2024	**Version number**		1.0

Relationship with other units			
Relationship with other subjects			
Prerequisites Unit	No	**Semester**	
Common Requirements Unit	No	**Semester**	

Unit objectives, learning outcomes and how-to contents Course objectives, learning outcomes and instructional contents	
Objectives of the Unit Course Objectives	• Understand the basic foundations of microprocessors: Learn about the components of a microprocessor and how it works. • Study Microprocessor Design: Learn how to design a processor using modules such as controller, arithmetic and logic unit, and memory. • Microprocessor Programming: Learn how to write and develop programs that run on microprocessors using languages such as Assembly or C. • Microprocessor applications: Understand how microprocessors are used in various applications such as embedded systems, hardware control, and data processing. • Performance analysis: The study of how microprocessor performance is measured and analyzed in certain applications.
Unit Learning Outcomes Learning outcomes of the course	1. Understanding microprocessor components: Know how microprocessor units are integrated. 2. Systems design using microprocessors: The ability to design electronic systems using microprocessors. 3. Microprocessor Programming: Writing processor-compatible programs using low-level programming languages. 4. Performance analysis: The ability to evaluate performance and troubleshoot potential problems in systems that use microprocessors. 5. Application of microprocessors: The ability to apply the processor in embedded systems such as controllers and smart cars.
Indicative Contents Indicative Contents	1. Introduction to Microprocessors: Definition of microprocessor and its basic components. 2. Microprocessor units: such as controller, arithmetic and logic unit, memory, and I/O interfaces. 3. Processor architectural design: Understand how the processor is designed at the circuit level. 4. Microprocessor Programming: Learn programming languages such as Assembly and C for software development. 5. Microprocessor applications: use in embedded systems, industrial control, and smart devices. 6. Performance analysis: How to measure processor efficiency in certain applications.

Learning and Teaching Strategies Learning and Teaching Strategies	
Strategies	1. Hands-on learning: Conducting hands-on experiments to design systems using microprocessors and programming. 2. Case Study: Analysis of real applications of microprocessors in different systems. 3. Project-based education: Design and implement practical projects using microprocessors. 4. Use of simulators: Train students to use microprocessor simulators to test software systems. 5. Interactive discussions: Discuss challenges related to the design and programming of microprocessors in advanced systems.

Student Workload (SWL) The student's academic load is calculated for 15 weeks				
SWL منظم (h / sem) Regular academic load of the student during the semester	30	**SWL regulator(h/s)** Regular student load per week		5
SWL غير منظم (h / sem) Irregular academic load of the student during the semester	15	**Unregulated SWL (h/s)** Irregular student academic load per week		5
SWL إجمالى (h / sem) The student's total academic load during the semester				45

Unit Evaluation Course Evaluation					
	As	**Time/Number**	**Weight (tags)**	**Week due**	**Related learning outcomes**
Formative Assessment	**Contests**	2	10% (10)	5, 10	LO #1 , 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO #3 , 4, 6 and 7
	Projects /Laboratory.	1	10% (10)	continuous	every
	report	1	10% (10)	13	LO #5 , 8 and 10
Final Assessment	**Midterm Exam**	2 hr	10% (10)	7	LO #1-7
	Final Exam	2 hours	50% (50)	16	every
	Overall Rating	100 %(100 degree)			