Course description form

1. Course name: Digital Electronics II	
2. Course Code: WBM−42−06	
3. Semester/year: 2nd/2025	
4. Date this description was prepared: 3/20/2025	
5. Available attendance forms: Weekly attendance − theoretical hall + practical laboratory	
6. Number of study hours (total)/number of units (total):75hours/semester (2Theoretical hours per week + 3 practical hours) / 3 units	
7. Name of the course administrator (if more than one name is mentioned)	
the name: Asst. Lecturer Qaysar Iyad Email: qayssar.ayad@uowa.edu.iq	
8. Course objectives	
• Learn the basics of logic circuits • Building sequential logic circuits. • Construct functional tables for all slippers and latches. • The process of converting betwee different swings.	**Objectives of the study subject**

• Build different types of counters, synchronous and asynchronous.	

9. Teaching and learning strategies

1-The methodical book, as well as lectures and solvi mathematical problems. 2-Scientific library. 3- Visual presentation methods (data show) using t PowerPoint program or displaying PDF files to clarify t lecture items, drawings and shapes. 4-Useful educational sites on the Internet. 5The teacher delivers detailed theoretical lectures, a students participate during the lecture in solving sor engineering problems. 6- Adopting the homework method to solve the exercises students.	Teaching and learning strategy

10. Course structure

Evaluation method	Learning method	Required learning outcomes	Name of the unit or topic	hours	the week
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	Latchs and flip flops, SR FF	2 theoretica 3 practical	1
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	D FF, JK FF, and T FF, applications	2 theoretica 3 practical	2
a Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	unters, asynchronous counter (eipple counters) up-down counters	2 theoretica 3 practical	3
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	ynchronous counters design, up-down)	2 theoretica 3 practical	4
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	unters mod-counters, applications	2 theoretica 3 practical	5
			, registers, shift gister, serial in/serial out, serial in/parallel	2 theoretica 3 practical	6

Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	t, parallel in/parallel out, parallel in /serial out		
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	ring counter	2 theoretica 3 practical	7
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	johanson counters, applications	2 theoretica 3 practical	8
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	are wave generators	2 theoretica 3 practical	9
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	Shift register	2 theoretica 3 practical	10
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	Multiviberator one shot	2 theoretica 3 practical	11
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	A/D and D/A	2 theoretica 3 practical	12
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	memory types, RAM	2 theoretica 3 practical	13
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	ROM, flash RAM.	2 theoretica 3 practical	14
Surprise exams a classroom activit	LecturesDA A SHOW	The student understands the topic	Application of digital electronics	2 theoretica 3 practical	15

11. Course evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

- Attendance + cup = 10%
- Monthly exam = 30%
- Practical laboratory = 10%
- Final exam = 50%
- Final total = 100%

12. Learning and teaching resources

1- Required prescribed books	"Digital Design", FIFTH EDITION, Morris Mano & Michael D. Ciletti, 20 Pearson Education, ISBN-13: 978-0-1 277420-8.
2- Main references (sources)	▪ ***"Digital Fundamentals"***, Eleventh Edition, Thomas L. Floyd, 2015, Pearson Education, ISBN 13: 978-1-292-07598-3. ▪ ***"Digital Electronics: Principles, Devices and Applications"***, Anil K. Maini, 2007, John Wiley & Sons, Ltd. ISBN: 978-0-470-03214-5.
Floyd "DIGITAL FUNDAMENTALS"	Recommended supporting books a references (scientific journals, Reports.....)
WWW.IEEE.com	Electronic references, Internet sites