

## T6. Course Specification (CS) توصيف المقرر

Institution	Najran University	Date	14/8/1438
College/Department	: Community Collage – Computer Since Program		

### A. Course Identification and General Information: التعريف بالمقرر الدراسي ومعلومات عامة عنه:

1. Course title and code: Digital logic and computer architecture (244 comp-4)			
2. Credit hours : 4			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Computer Science Program			
4. Name of faculty member responsible for the course : Dr. Salwa Muter Alwazer			
5. Level/year at which this course is offered : Fourth level			
6. Pre-requisites for this course (if any) : Principles of Computer and Information Technology (110CSR-5 )			
7. Co-requisites for this course (if any) : there isn't any Co-requisites.			
8. Location if not on main campus : Community College- Almadenah Aljamaeah			
9. Mode of Instruction (mark all that apply) (نمط التدريس (ضع علامة على كل ما ينطبق)			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage ?	80
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage ?	
c. e-learning What percentage?	<input checked="" type="checkbox"/>		10
d. Correspondence	<input type="checkbox"/>	What percentage ?	
f. Other	<input checked="" type="checkbox"/>	What percentage ?	10
Comments : traditional classrooms has the highest percentage because it let the students interact directly with the subject, and the teacher can recognize the weakness of the students.			

## B. Objectives الأهداف

1. What is the main purpose for this course ? This course aims to give the student the concept of digital logic as Number System, and defined the fundamentals of Logic Gates and Boolean Algebra. In addition to recognize the major components of the computer, the functions of each component and its impact of the performance.
2. Briefly describe any plans for developing and improving the course that are being implemented. Improve the labs of this course by providing a tangible digital logic lab and support it with the newest technology tools.

## C. Course Description .

Course Description : وصف المقرر :
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1. Topics to be Covered :		
List of Topics	No. of Weeks	Contact Hours
Number Systems	4	12
Boolean Algebra and Logic Gates	4	12
Boolean Algebra and Logic Gates	2	6
Simplification of Boolean Function and Karnaugh maps	3	9
Registers, Counters, and Memory Unit Design of Arithmetic logic unit Computer Design- Processor logic design	2	6

1.Course components (total contact hours and credits per semester):						
	Lecture 	Tutorial	Laboratory or studio	Practical	Other:	Total
Contact Hours	45			2 * 15= 30	no	75
Credit						

3-Additional private study/learning hours expected for students per week	5
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy.
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Code # مسلسل	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
<b>1.0</b>	<b>Knowledge</b>		
1.1	Define numbers system	Lecture Practical applications	Exams
1.2	Describe the main types of logic gates and how they work	Lecture Practical applications	Exams
1.3	Recognize the main components of the computer	Lecture Practical applications	Exams
<b>2.0</b>	<b>Cognitive Skills</b>		
2.1	Analysis numerical Systems and discussion of conversions and apply its law.	Lecture Practical applications	Exams
2.2	Design logical of digital circuits.	Lecture Practical applications	Exams
	Atomize between computer components	Lecture Practical applications	Exams
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
3.1	Works in groups	Lecture	Works in groups

Code # مستند	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
4.0	<b>Communication, Information Technology, Numerical العددية</b>		
4.1	Communicate verbally and writing and discussed in the lecture	Lecture	
5.0	<b>Psychomotor</b>		
5.1			

#### 5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, Quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	First med exam (theory + practical )	Seventh	10%
2	Second med exam (theory + practical )	Twelfth	10%
3	Homework and Quiz	.....	10%
4	Final practical exam	Fourteenth	20%
5	Final exam(theory)	Sixteenth	50%
Total		100%	

#### D. Student Academic Counseling and Support الإرشاد الأكاديمي والدعم الطلابي

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Four Office Hours a week.
- Giving Extra Lectures for weak students to minimize the gap between students in the usual lecture.

#### E. Learning Resources

1. List Required Textbooks :

Digital Design and Computer Architecture, Second Edition, David Money, Harris and Sarah L. Harris, 2012

2. List Essential References Materials (Journals, Reports, etc.)

- <http://ufdcimages.uflib.ufl.edu/AA/00/01/16/38/00001/DigitalLogic.pdf>
- [www.acm.org](http://www.acm.org)
- [www.ieee.org](http://www.ieee.org)

3. List Electronic Materials Web Sites, Facebook, Twitter, etc.

- [www.youtube.com](http://www.youtube.com)
- [www.ieee.org](http://www.ieee.org)
- <http://educyclopedia.karadimov.info/library>
- <https://www.nadrus.com/%D8%AF%D9%88%D8%B1%D8%A9/%D8%A7%D9%84%D9%85%D9%86%D8%B7%D8%A7%D9%84%D8%B1%D9%82%D9%85%D9%8A-Digital-Logic-Design-262#access-box>

3. Other learning material such as computer-based programs/CD, professional standards or regulations and software. Using in labs Electronic Workbench program

#### F. Facilities Required المرافق اللازمة

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

Classrooms should fit at most 30 students where as labs fits 25.

The classrooms and labs are suitable in size but the labs needs to be improved.

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Classrooms –LABS

Prepare the labs with modern hardware and software.

<p>2. Computing resources (AV, data show, Smart Board, software, etc.)</p> <p>There are data show but need to be connected to computer. Smartboard will help teaching if they are available</p>
<p>3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list).</p> <p>Need to prepare Logic labs with the newest technology tools as Logic Boards , Gates, and power supply.</p>

#### **G. Course Evaluation and Improvement Processes:**

<p>1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching</p> <ul style="list-style-type: none"> <li>• Students have to fill the questioner in the university site.</li> <li>• Asking students to write there opinion monthly.</li> <li>• Making homework and return it to them after evaluating it</li> </ul>
<p>2. Other Strategies for Evaluation of Teaching by the Instructor or by the department.</p> <ul style="list-style-type: none"> <li>• Giving them after each chapter quiz</li> <li>• Set groups of students to discuss the lessons before I present it.</li> </ul>
<p>3. Processes for Improvement of Teaching:</p> <ul style="list-style-type: none"> <li>• Making revision for the material.</li> <li>• Set groups of students to talk about new ideas in the subject.</li> <li>• Let students write new examples that reflect the digital logic.</li> </ul>
<p>4. Processes for Verifying Standards of Student</p> <p>Auditing 10% from the final exam papers randomly through a committee that is nominated from the department.</p>
<p>5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :</p>

Name of instructor : \_\_\_\_\_

Signature : \_\_\_\_\_ Date Report Completed: 19/8/1438

Name of field experience teaching staff : \_\_\_\_\_

Program coordinator : \_\_\_\_\_

Signature : \_\_\_\_\_ Date received : \_\_\_\_\_