



Course Specifications

Institution:	College of Education at Zulfi
Academic Department :	Department of Physics
Programme :	Fifth Level
Course :	Electronics-1
Course Coordinator :	Dr. Emad Alhami
Programme Coordinator :	Dr. Najwa Ibrahim
Course Specification Approved Date :	15/ 2 / 1437 H



A. Course Identification and General Information

1 - Course title :	Electronics-1	Course Code:	PHYS. 313
2. Credit hours :	(2 Theoretical + 1 Experimental) <input type="checkbox"/>		
3 - Program(s) in which the course is offered:	Physics Program (B.Sc.)		
4 – Course Language :	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
5 - Name of faculty member responsible for the course:	Dr. Emad Alhami		
6 - Level/year at which this course is offered :	Third Year / Fifth Level		
7 - Pre-requisites for this course (if any) :			
8 - Co-requisites for this course (if any) :	<ul style="list-style-type: none"> • <input type="checkbox"/> 		
9 - Location if not on main campus :	(.....) <input type="checkbox"/>		
10 - Mode of Instruction (mark all that apply) <input type="checkbox"/>			
A - Traditional classroom <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> What percentage? <input type="checkbox"/>	80 % <input type="checkbox"/> <input type="checkbox"/>
B - Blended (traditional and online) <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> What percentage? <input type="checkbox"/>	0 % <input type="checkbox"/> <input type="checkbox"/>
D - e-learning <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> What percentage? <input type="checkbox"/>	5 % <input type="checkbox"/> <input type="checkbox"/>
E - Correspondence <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> What percentage? <input type="checkbox"/>	0 % <input type="checkbox"/> <input type="checkbox"/>
F - Other <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> What percentage? <input type="checkbox"/>	15 % <input type="checkbox"/> <input type="checkbox"/>
Comments : <input type="checkbox"/>		

B Objectives

<p>What is the main purpose for this course?</p> <ol style="list-style-type: none"> 1. Understand the fundamentals of electronics. 2. To do some applications that depends on the basic principles of electronics. 3. To encourage the students to develop these applications.
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C. Course Description

1. Topics to be covered

First: Theoretical Part

List of Topics	No. of Weeks	Contact Hours
Energy levels of electrons	1	2
Bands theory	1	2
Pure (and non pure) semiconductors	1	2
Charge carriers: electrons and holes	1	2
diode	2	4
Applications of diode	1	2
Types of diodes	1	2
Bipolar junction transistor	2	4
Applications of PJT	2	4
Field-effect transistor (FET)	1	2
Types of FET	1	2
Signal amplifiers	1	2

2. Course components (total contact hours and credits per semester):

<input type="checkbox"/>	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	2 <input type="checkbox"/>	<input type="checkbox"/>	2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	60 <input type="checkbox"/>
Credit	2 <input type="checkbox"/>	<input type="checkbox"/>	1 <input type="checkbox"/> <input type="checkbox"/>	3 <input type="checkbox"/>

3. Additional private study/learning hours expected for students per week.

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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	To recognize the importance of the electronics	<ul style="list-style-type: none"> • Developing basic communicative • Ability through short and varied situated discourse. • Lecturing • Team work • Exercises 	<ul style="list-style-type: none"> • Homework. • Group Discussion • Presentation • Mid-term exam • Final test
1.2	To identify some properties of some electronic devices like diodes and transistors		
1.3	To show the applications of the electronic devices		
2.0	Cognitive Skills		
2.1	Collect general information to the related topics.	<ul style="list-style-type: none"> • Problem solving • Class discussion • presentation • Individual meeting with the instructor (encouraging students to discuss different topics outside the classroom) 	<ul style="list-style-type: none"> • Class Participation • Presentation • Essay Question • Research
2.2	Use the mathematical equations and related work to be use for the universe understanding.		
2.3	Apply the gained mathematical and experimental knowledge in any physical related topic.		
3.0	Interpersonal Skills & Responsibility		
3.1	Work in a group and learn time management.	<ul style="list-style-type: none"> • Discussion with students • Making students aware about time management in completing their assignments and projects. • Counsel students how to make a good presentation in French. • Encourage students to help each other • Group presentation • Group assignments 	<ul style="list-style-type: none"> • Respecting deadlines. • Showing active class participation. • Helping other students to understand tasks in the class. • Giving clear and logical arguments • Performing seriously on midterms and final exams
3.2	Learn how to search for information through library and internet		
3.3	Present a short report in a written form and orally using appropriate scientific language		





	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
4.0	Communication, Information Technology, Numerical		
4.1	Communicate with teacher, ask questions, solve problems, and use computers.	<ul style="list-style-type: none"> Exercises Problem solving oral quizzes Essay questions Encourage students to use program software 	<ul style="list-style-type: none"> Write reports Exercises related to specific topics
4.2	Illustrate deal with confidence with differential equations, integrations, and differentials.		
4.3	Operate questions during the lecture, work in groups, and communicate with each other and with me electronically, and periodically visit the sites I recommended		
4.4	Students use information technology in the classroom		
5.0	Psychomotor		
5.1
5.2
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5. Schedule of Assessment Tasks for Students During the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	Midterm Exam	8	20
2	Homework, Quizzes, Discussions, Team Group, Projects, & Lab	14	20
3	Final Experimental Exam	15	20
4	Final Theoretical Exam	16	40

D. Student Academic Counseling and Support





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)

Two office hour per week

E. Learning Resources

1. List Required Textbooks :

ELECTRONIC DEVICES, second edition, by THOMAS FLOYD

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

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)

Software are available with the lecturer

5. Other learning material such as computer based programs/CD, professional standards or Regulations and Softw are.

Microsoft Office

F. Facilities Required

1. Accommodation

Lecture room, a smart board to write on and computer

2. Computing resources

Computer Lab. and internet lab.

3. Other resources

Library, and Seminar Room , Wi-Fi internet connections

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

Student evaluation electronically organized by the University

2 Other Strategies for Evaluation of Teaching by the Program/Department

Instructor :

There is a department committee

3 Processes for Improvement of Teaching :

1. Course report.
2. Program report





4. Processes for Verifying Standards of Student Achievement

Efficiency of course will be reflected on the results of the class, which reviewed by members of the teaching staff in addition to other duties such as discussing ideas and ways of teaching and learning. The course should be developed periodically to ensure that it contains the latest developments in the field of study. Development could be put as an objective in the report of the course to be achieved each semester

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- 1- Course Evaluation
- 2- Exam Evaluation
- 3- Improvement plan
- 4- Program Outlearning with course outlearning
- 5- Outlearning from the pre-requisite course

Course Specification Approved Department Official Meeting No (4) Date **15 / 2 / 1437 H**

Course's Coordinator

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Department Head

Name : Dr. Emad Alhami

[Name : Dr. Najwa Ibrahim

Signature : Dr. Emad Alhami

[Signature : Dr. Najwa Ibrahim

Date : 15 / 2 / 1437 H

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