TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAM REVIEW

COURSE SPECIFICATION

Identify specifications of Diodes and transistors, connecting application of these specifications with electronics area.

ƒ Explain the application of Diodes and transistors in electronic circuits. Indicate some uses for Diode and transistor circuits.

ƒ Describe the practical benefits of amplifying circuits.

1. Teaching Institution	Baghdad University / Al Khwarizmi College of engineering
2. University Department/Centr	**Mechatronics Eng. Dept.**
3. Course title/code	**Physics**/ MCT125
4. Program(s) to which it contributes	**Mechatronics Eng.**
5. Modes of Attendance offered	Full time
6. Semester/Year	Course
7. Number of hours tuition (total)	**4 hours (2 theoretical/2 Prac.)**
8. Date of production/revision of this specification	August/ 2021
9. Aims of the Course	
• To understand Diode and transistor physics and their specifications in knowledge field.	
• Explains why Diodes and transistors are important to implement electronic design.	
• Describes benefits of Diode and transistor circuits in computer engineering.	

10· Learning Outcomes, Teaching , Learning and Assessment Methods

A- Knowledge and Understanding

A1.*

A2.*

A3.*

Teaching and Learning Methods

- Power point lectures & solving exercises.
- Private-study.
- Logic lab.
- Text books and solutions of chapters.
- Small group tutorials.

Projects.

Assessment methods

- Closed book examinations.
- Essays and home works.
- Case study reports.
- Experimental reports.
- Projects.

B. Subject-specific skills

B1.*

B3.*

B4.*

Teaching and Learning Methods

- Classroom lectures, assignments, examples, tutorials, and home works.
- Lab experiments & lab discussions.
- Projects.

Assessment methods

- Theoretical and experimental Quizzes.
- Written examination and lab reports.
- Implemented projects.

C. Thinking Skills

C1.*

C2.*

C3.*

C4. *

Teaching and Learning Methods

- Classroom lectures.
- Examples.
- Tutorials& Home works.

- Supervised Projects.

Assessment methods

- Theoretical and experimental Quizzes& Examinations.
- Integrated assignments& Technical Reports.
- Presentations& Case study/Scenario based analysis.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1.*

D2.*

D3.*

D4. *

Teaching and Learning Methods

- Library and other information resources.
- Group discussions.
- Project management.
- Individual & group problem solving activity.

Assessment methods

- Examinations answers, class assignment, and home works.
- Lab reports.
- Oral presentations.

11. Course Structure					
12. Infrastructure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
Course 2					
16	4		Diode circuits analysis and Applications		
17	4		BJT transistor A.C analysis and Applications		
18	4		FET transistor types		
19	4		FET transistor D.C analysis		
20	4		FET transistor A.C analysis		
21	4		FET transistor application circuits		
22	4		Multistage systems		
23	4		Multistage systems & special amplifiers		
24	4		Large signal amplifiers (power transistors)		
25	4		power transistors, class A		
26	4		power transistors, class A transformer coupled		
27	4		power transistors, class B(push – pull)		
28	4		BJT&FET frequency response		
29	4		The operational amplifier as an electrical circuit		
30	4		Operational applications		

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	• Electronic Devices By (Floyd) • Electronic Devices & Circuit theory By (Boylestad)
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	
Minimum number of students	10
Maximum number of students	30