

Course Syllabus

1	Course title	Practical Electronics	
2	Course number	0302312	
3	Credit hours	1	
	Contact hours (theory, practical)	16 (Practical)	
4	Prerequisites/corequisites	Electronics	
5	Program title	Physics	
6	Program code		
7	Awarding institution		
8	School	Science	
9	Department	Physics	
10	Course level	2 nd	
11	Year of study and semester(s)	2023-2024	
12	Other department(s) involved in teaching the course		
13	Main teaching language	English	
14	Delivery method	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online	
15	Online platforms(s)	<input checked="" type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others: Microsoft Teams.	
16	Issuing/Revision Date		



17 Course Coordinator:

Name: Nada Mahmoud

Contact hours: Monday (13:00-16:00)

Office number: 302

Phone number: 22039

Email: Nada_t@ju.edu.jo

18 Other instructors:

Name:

Office number:

Phone number:

Email:

Contact hours:

Name:

Office number:

Phone number:

Email:

Contact hours:

19 Course Description:

As stated in the approved study plan.



- Aims:

B- Students Learning Outcomes (SLOs):

For purposes of mapping the course SLOs to the physics program SLOs, at the successful completion of the physics program, graduates are expected to be able to:

SLO (1) Master professionally a broad set of knowledge concerning the fundamentals in the basic areas of physics: Quantum Mechanics, Classical Mechanics, Electricity and Magnetism, Thermal Physics, Optics, Theory of Special Relativity, Mathematical Physics, Electronics.

SLO (2) Apply knowledge of mathematics and fundamental concepts in the basic areas of physics to identify and solve physics related problems.

SLO (3) Utilize computers and available software in both data collections and data analysis.

SLO (4) Utilize standard laboratory equipment, modern instrumentation, and classical techniques to design and conduct experiments as well as to analyze and interpret data.

SLO (5) Develop recognition of the need and ability to engage in life-long learning.

SLO (6) Demonstrate ability to use techniques, skills, and modern scientific tools necessary for professional practice.

SLO (7) Communicate clearly and effectively in both written and oral forms.

SLO (8) Apply proficiently team-work skills and employ team-based learning strategies.

SLO (9) Apply professional and ethical responsibility to society. Upon successful completion of this course, students will be able to:

Course SLOs \ Program SLOs	SLO (1)	SLO (2)	SLO (3)	SLO (4)	SLO (5)	SLO (6)	SLO (7)	SLO (8)	SLO (9)
1. Students will possess the analytical skills to evaluate and troubleshoot basic DC and AC circuits. Additionally, they will be proficient in utilizing oscilloscopes for accurate measurements, contributing to their competence in practical electronics.				✓	✓	✓			
2. Students are anticipated to comprehend the I-V characteristic curve of diodes and explore applications: rectification and clamping of special-purpose diodes such as Zener diode .				✓	✓	✓			
3. Students are expected to understand the basic operation of bipolar junction transistors (BJT).				✓	✓	✓			
4. Students are expected to understand BJT biasing and amplifier circuits.				✓	✓	✓			

5. Students are expected to understand the basics of operational amplifier circuits that includes comparators, feedback circuits, adders, integrators, comparator and oscillator.				✓	✓	✓			
---	--	--	--	---	---	---	--	--	--

21. Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	Exp1	Measuring Equipment	1	Face to Face		Synchronous	Report	
2	Exp2	Diode <i>IV</i> Characteristics	1,2	Face to Face		Synchronous	Report	
3	Exp3	Diode Applications: Rectification and Filtering	1,2	Face to Face		Synchronous	Report	
4	Exp4	Diode Applications: Diode Clipper and Clamper	1,2	Face to Face		Synchronous	Report	
5	Exp5	Zener Diode: <i>IV</i> Characteristics and Applications	2	Face to Face		Synchronous	Report	
6	Mid Exam		1,2	Face to Face		Synchronous		
7	Exp6	Transistor <i>IV</i> Characteristics	3	Face to Face		Synchronous	Report	
8	Exp7	Transistor Biasing	4	Face to Face		Synchronous	Report	
9	Exp8	Transistor Amplification	4	Face to Face		Synchronous	Report	
10	Exp9	Operational Amplifier	5	Face to Face		Synchronous	Report	

11	Exp10	Comparators	5	Face to Face		Synchronous	Report	
12	Exp11	Oscillators	5	Face to Face		Synchronous	Report	
13	Office hours	Students issues	All	Face to Face Teams		Synchronous		
14	Office hours	Students issues	All	Face to Face Teams		Synchronous		
15	Final-exam		All	Face to Face		Synchronous		

22 Evaluation Methods:

Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
Lab Reports	Total 30	For each exp	Related to each exp	Each week	E-learning Face to Face
Mid Exam	30	First 6 exp	1-2	Week 6	Face to Face
Final Exam	40	All exp	1-5	Week15	Face to Face

23 Course Requirements

(e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

24 Course Policies:

A- Attendance policies:

B- Absences from exams and submitting assignments on time:

C- Health and safety procedures:

D- Honesty policy regarding cheating, plagiarism, misbehavior:

E- Grading policy:

F- Available university services that support achievement in the course:



مركز الاعتماد
وإضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER

25 References:

A- Required book(s), assigned reading and audio-visuals: Lab manual

B- Recommended books, materials, and media: electronic devices Thomas L. Floyd

26 Additional information:

Name of Course Coordinator: -----	Signature: -----	Date: -----

Head of Curriculum Committee/Department: -----	Signature: -----	

Head of Department: -----	Signature: -----	
-		
Head of Curriculum Committee/Faculty: -----	Signature: -----	
-		
Dean: -----	Signature: -----	