

Module (Course Syllabus) Catalogue

2023-2024

College/ Institute	Erbil Polytechnic University	
Department	ICTE	
Module Name	Electronic's Workshop	
Module Code	ELW 206	
Semester	Second	
Credits	5 ECTS	
Module type	Prerequisite <input type="checkbox"/>	Core <input checked="" type="checkbox"/> Assist. <input type="checkbox"/>
Weekly hours	4	
Weekly hours (Theory)	()hr Class	()hr Workload
Weekly Hours (Practical)	(4)hr Class	(135 for the whole semester) hr Workload
Lecturer (Theory)	Sevan Hussein Ali	
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Lecturer (Practical)	Sevan Hussein Ali	
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Course Book

<p>Course Description</p>	<p>Laboratory Workshop Electronics is the studying of two lectures a week for six hours. The curriculum is distributed for 16 weeks. The lectures include practical and theoretical applications, and there are daily examinations. The is working to develop the knowledge and practice of students through the curriculum, which helps them to know the communications devices and knowledge the use of electronic elements (components, types, and how to know the theoretical and practical value)</p>
<p>Course objectives</p>	<p>Students acquire the skills and knowledge of the electronic components and how to use the laboratory equipment correctly while maintaining safety for students and laboratory equipment.</p>
<p>Student's obligation</p>	<p>Motivate students, not absenteeism, and a commitment to schedule lectures and submit homework and laboratory reports and the answer in all exams. Laboratory cleaner, instructions to preserve the integrity, and safety devices.</p>
<p>Required Learning Materials</p>	<p>Laboratory work, comprising several set experiments, is undertaken during the semester. Up to the semester, all of the experiments are associated with understanding electronic Equipment. Materials used Data show, whiteboard, and experimental laboratory.</p>
<p>Assessment scheme</p>	<p>Continuous Evaluation 100%. (Practical)</p>
<p>Specific learning outcome:</p>	<p>Student's learning results: Students can learn electronic circuits and their electronic components at the end of the academic year and how to use the laboratory equipment in the best way. Student's learning results: Students can learn electronic circuits and their electronic components at the end of the academic year and how to use the laboratory equipment in the best way. Learn how to check electronic components and how to use caustic electricity when you heat and handle the board when designing a practical circuit.</p>

Course References:	<p>Laboratory lab electronic lab/Haifa Jasim.</p> <p>Simplified basics in electricity and electronics Mohammed Khalaf.</p> <p>Electronic components series/Ameer Darwesh.</p> <p>www.allaboutcircuits.com/textbook.</p> <p>www.vtubooks.com.</p>	
Course topics (Theory) No Theoretical	Week	Learning Outcome
Practical Topics	Week	Learning Outcome
Procedures and safety precautions in dealing with the power supply. Devices used in laboratories. Types of caustic electric welding and how to use them correctly.	1	Understanding the basic safety & Devices used in laboratories.
Types of the electrical switch and fuses Practical application.	2	Knowing to Use the digital meter to check the types of switches & fuses.
Types of resistors, Knowing the value of resistors code. Knowing the value of resistors with four color codes (four) Comparison of theoretical and practical value.	3	Understanding the value of color resistors (four color codes).
Knowing the value of resistors with five colors, Comparison of theoretical and practical value Connecting resistors series and parallel. Practical application	4	Understanding the value of the resistor's color(five color codes).
Types of capacitors, Practical application Knowing the value of capacitors code numbers, Practical application	5	Knowing the value of the capacitor's code numbers.
Types of coils. Practical application Transformers. Practical application	6	Use the digital meter to check the types of Coils & Transformers.

Midterm Exam	7-8	
Types of diodes with their symbols and their applications in circuits, and how to test the diodes.	9	Knowing the types of diodes with their symbols and their uses in electronic circuits.
Type of Transistors. How to check and test the transistor types and find when it works properly or not Practical application		Knowing the types of transistors with their symbols and their uses in electronic circuits.
Common base. Practical application. Common collector, Practical application. Common emitter.	11-12	Use the digital meter to check the types of Transistors. Then connected the circuits.
Design electronic circuits that are ready to be connected and soldered in the workshop lab, Practical application.	13-14	Finally, the student can be able to design any electronic.
<i>final Exam</i>	15-16	

Examinations:

- 1 The value of the capacitor ceramic is 223J = **22000pf±5%**.
- 2-TheTransformer parts are: **1 --primary- - 2 --secondary-- 3- --core--** .
- 3-The coil measurement unit is-- - -. a) **H** b) Ω c) μf
- 4- How many Types of diodes? *Draw the symbols.*

(Practical)

1- P-N diodes



2- Zener diodes



3-Light emitting diodes



4-Shottkey diodes



5-Photodiodes



6- Varactor diode



Varactor diode symbol

Extra notes:

Workshop Electronics laboratory material, The assessment is continuous through lectures for a full academic year.

External Evaluator

1-Mr. Abdul-Jabbar Majeed Sadiq

2-Mr. Khaleed Jajo Bano