

SEMESTER <i>Third</i>	DEPARTMENT <i>General Engineering</i>	COURSE TITLE <i>Electronic Workshop</i>
COURSE CODE <i>ET 306</i>	HOURS: 3 UNITS: 1	COURSE SPECIFICATIONS <i>Practical Contents</i>

1. Identify and Test Different Types of Electronic Components:

- Explain the rules of safety in the workshop.
- Show different types of the resistors.
- Explain how to test resistors in/out of a circuit
- Investigate the types of coils, and how to detect their faults.
- Construct and identify the constructional parts of a single phase transformer.
- Detect and determine transformers faults
- Define different types of diodes and its usage.
- Test diodes in / out of a circuit.
- Discriminate between the types of transistors, their packages and usage.
- Test transistors in / out of a circuit.
- Use the equivalent data sheets to find substitutes for the different electronic elements.
- Assemble and disassemble different electronic elements from PCB.

2. Fault-Find and Troubleshoot:

- Build and test different circuits and determining their faults.

3. Describe the Principle of Operation of Various Transducers:

- Describe the fundamentals and operation of the linear variable differential transformers, position displacement transformers, velocity, acceleration transducers and tachometers, test them and define their properties.

References:

1. Thomas L. Floyd, *Electronics Fundamentals Circuits, Devices and Applications*, Photo disc Inc.
2. Clyde F. Coombs, Jr, *Printed Circuits Hand Book*, McGraw-Hill.
3. Howard H. Gerrish, *Transistor Electronic*.

4. W. Bolton, *Mechatronics*. ISBN 0582256248