Course Title: Digital communications Lab. (650537)

Prerequisite: Digital Communications (650533)

Text Book: Lab Manual for Digital Communications

Credit Hours: 1

Level: 4th Year

Course Goals:
To introduce the principles of digital communications to make the student able to understand the communication system.

Time Schedule:
Duration: 16 weeks
Lectures: None
Tutorial: None
Laboratories: 3 hours / week

Objectives:
At Completing this module the student should be able to:
1. Understand the basics of modulation and demodulation technique.
2. Understand the basics of encoding and data formatting.
3. Understand the concepts of Multiplexing and fiber communications.

Course Outline:

Part one: Computerized Communication Experiments (Using Discovery Software):
- Experiment No.1: Sampling.
- Experiment No.2: Pulse Code Modulation (PCM).
- Experiment No.3: Data Formatting.
- Experiment No.4: Time Division Multiplexing (TDM).
- Experiment No.5: Fiber Optic Link.

Part two: Using ED Modules:
- Experiment No.6: Dealing with Noise in a Digital System.
- Experiment No.7: Clock Regeneration (NRZ Data).
- Experiment No.8: Amplitude Shift Keying (ASK).
- Experiment No.9: Frequency Shift Keying (FSK).
- Experiment No.10: Phase Shift Keying (PSK).

Mode of Assessment
- Reports & Participation: 30%
- Midterm Exam: 30%
- Final Exam: 40%

References: