# American International University- Bangladesh

## Department of Electrical and Electronic Engineering

**<u>Open-Ended Lab Experiment</u>: Designing A Message Transmitting and Receiving System for Digital Communication System**

### <u>Objective</u>

Using the background knowledge on signal frequency, spectrum bandwidth, digital data, bit rate, sampling & quantization, and different analog & digital modulation & demodulation techniques students will design a message transmitting and receiving system for digital communication by using suitable block level design tools.

### <u>Task:</u>

Your experiment should be designed to investigate:

- Successful message transmission and reception.
- Order of placement of the individual parts of the system.
- Transmission of a long message with acceptable amount of channel noise.
- Repetition of transmission and reception process for different modulation schemes and measurement of time required for each case. Choose the best one after investigation.
- Justification of your choice with respect to time required for the whole process, required bandwidth, SNR, and SINAD.
- Performance analysis of the designed system.

### <u>Lab Report:</u>

You should follow the Department's template for the lab report writing purpose.