



## EEE 321, ETE 321 – Introduction to Communication Systems

### Lab Assignment 02

*Submission Deadline: 04 June 2020*

- Write your **name, id, and section** at the beginning of each code as **comments**.
- Write your **name, id, and section** as a part of **title** of all graphs.
- Write your **name, id, and section** on your **SIMULINK** model.
- Submitted assignment should have **MATLAB** codes, graphs and **Simulink** models.
- Send your assignment to <shajnush.amir@northsouth.edu> use Subject :  
**EEE321L\_3\_Assignment02**

- 1- Compare AM, FM and PM in details.
- 2- Convert the following array to a diagonal matrix:  
$$A = [66 \ 55 \ 44 \ 33 \ 22 \ 11]$$
- 3- Consider a message signal  $m(t) = \sin(20\pi t) + 2 \sin(40\pi t)$ , for  $[0 \leq t \leq 5]$ . Now create a MATLAB program to perform Suppressed carrier modulation and demodulation for both DSB and SSB. Assume  $f_c = 300$ . Hint: You may assume that the sampling rate is 8 kHz. Plot all necessary graphs.
- 4- Consider a message signal  $m(t) = \sin(6\pi t)$ , for  $[0 \leq t \leq 5]$ . Now create a MATLAB program to perform FM modulation and demodulation. Assume  $f_c = 50, \beta = 10$ . Hint: You may assume that the sampling rate is 1 kHz. Plot all necessary graphs.