

**ECE/EEE F311 Communication Systems (First Semester 2023-2024)**  
**Lab-1 (12-08-2023)**

---

## Objectives

In this task, the objective is to study signals in time and frequency representation.

### Task 1

Main functions used: `fft`, `fftshift`, `abs`, `hold all`, `hold on`, `figure`, `plot`.

- Plot  $x(t) = \sin(20\pi t)$  and  $|X(f)|$ .
- Plot sinc signal  $m(t) = 2B \text{sinc}(2\pi Bt)$  and  $|M(f)|$ , where  $B$  is the bandwidth. Take different  $B$  to see the spectrum.

### Task 2

$$\text{plot}(t, m_t) \equiv \text{plot}(m_t)$$