

**Faculty of Engineering & Technology**

**Communication 2**

**Information :**

**Course Code :** COM 412

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Specialization of Electronics & Communication

**Instructor Information :**

Title	Name	Office hours
Associate Professor	KAMEL MOHAMED MAHMOUD HASSAN	10
Associate Professor	Heba Mohamed Abdelatty Ahmed	1
Assistant Lecturer	Mahmoud Ahmed Nasr Kamal Abdo Mostafa	5
Assistant Lecturer	Mahmoud Ahmed Nasr Kamal Abdo Mostafa	5

**Description :**

Overview of Analog communication systems. Introduction to Digital communication. Analog to Digital Convertors. Sampling Theorem. Practical Aspects .Aliasing error. Information Rate and Bandwidth .Pulse modulation PAM, PWM, and PPM. Features ,generation and detection. Pulse Code Modulation{PCM}.Sampling, Quantization and Encoding. SNRo. Companding Process, TDM: principles, framing bits, total bit rate  $R_b$  .T1 carrier system. Synchronization and signaling. Plesichronous Digital Hierarchy. Differential Pulse Code Modulation{DPCM}.ADPCM, and DM. Line Codes: Properties, types, PSDs, and comparison, Pulse Shaping; ISI, Nyquist s First Criterion. Digital Receivers, and Regenerative repeaters. Equalizers ,Time Extraction  
Detection Error. Error probability for different signals.Eye Diagram Digital Carrier Systems. M-ary Digital Modulation. Comparison of digital modulation schemes