

**Faculty of Engineering & Technology**

**Probability and Statistics**

**Information :**

**Course Code :** EMP312

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Petroleum Engineering

**Description :**

Probability definitions and concepts; Conditional probability; Statistical independence and Bayes theorem; Discrete and continuous random variables; Distribution functions; Probability distributions and moments; Random variables and their probability distributions including uniform, binomial, geometric, Poisson, normal, and exponential distributions; Expected value and variance; Stochastic simulation; Sampling distributions; Maximum likelihood and least squares methods of estimation; Statistical inference including hypothesis testing and interval estimation; Applications using MATLAB