Date:	Examination No.:	Version:2021-2022	Start:23/1/2022
Module Name - Code	Probability and Statistics - 2127		
Module Language:	English		
Responsible:	Mr. Velar Hikmat Elias		
Lecture (s):	None		
College:	College of Engineering – Salahaddin University-Erbil		
Duration:	15 week – 1 semester		
Course outcomes:	This course has the following objectives • Master the basic concepts associated with probability models. • Be able to translate models described in words to mathematical ones. • Understand the main concepts and assumptions underlying Bayesian and classical inference. • Become familiar with basic and common probability distributions. • Learn how to use conditioning to simplify the analysis of complicated models. • Have facility manipulating probability mass functions, densities, and expectations		
Course Content:	Topics include:Algebra of Sets, Introduction to probability and Probabilistic Models, Probability Laws and its Properties, Counting Techniques, Conditional Probability, Multiplication Rule, The Law of Total Probability, Bayes' Rule, Independence Events, Discrete Random Variablesand their Distributions, Probability Mass Function (PMF), Cumulative Distribution Function (CDF), Expectation, Variance, and Standard Deviation, Continuous Random Variables and their Distributions, Probability Density Function (PDF), Basic Concepts of Statistics, Frequency Distribution, Cumulative frequency distribution curve, and Measures of Central Tendency		
Literature:	• Dimitri P. Bertsekas and John N. Tsitsiklis, Introduction to Probability, 2nd ed., 2008 • Sheldon Ross, A First Course in Probability, 8th ed., 2010 • Hossein Pishro-Nik, Introduction to Probability, Statistics, and Random Processes		
Type of Teaching:	3hrs. in lectures		
Pre-requisites:	None		
Preparation Modules:			
Frequency:	Spring Semester		
Requirements for credit points:	For the award of credit points, it is necessary to pass the module exam. It contains: Twoexaminations during the academic semester, Assignments and Final examination. **Student's attendance is required in all classes**.		
Credit point:	5		
Grade Distribution:	The following grade system is used for the evaluation of the module exam: The module exam is based on the summation of two categories of evaluations: **First: (40%)** of the mark is based on the academic semester effort which includes • Exam during the academic semester =20%. • Assignments = (10%). • Two Quizzes = (10%) **Second: (60%)** of the mark is based on final examination that is comprehensive for the whole of the study materials reviewed during the academic semester.		
Work load:	The workload is 150 hrs. It is the result of 45 hrs. attendance and 105 hrs. self-studies (Assignments, preparation for exam and applications).		