Date:	Examination No.: 15367	Version:5/02/2023	Start: 12/2/2023
Module Name - Code	Engineering Analysis – 111		
Module Language:	English		
Responsible:	Lecturer: Sazan N. Abdulhamid		
Lecture (s):	Ms. Sazan N. Abdulhamid		
College:	Civil Department-College of Engineering – Salahaddin University		
Duration:	15 weeks – 1 semester		
Course outcomes:	At the end of the semester, students would be able to use mathematics with understanding to solve engineering problems and recognize the increasing importance of mathematical models in engineering practice. The student will get familiar to use Laplace Transform to simplify calculations in system modeling, where a large number of differential equations are used. Also, they will get to know better analyze a signal in another domain rather than in the original domain by using the Fourier series, which allows us to model any arbitrary periodic signal with a combination of sines and cosines.		
Course Content:	The material covered includes the application of Differential Equations; Laplace Transforms; Fourier series and their application; Fourier Transform; Heat and Wave equations, and Z- Transform.		
Literature:	**Textbook: Advanced Engineering Mathematics by Erwin Kreyszic, 10th edition, 2011, John Wiley & Sons.** Modern Engineering Mathematics by Glyn James, Fifth Edition, 2015. Engineering Mathematics with Examples and Applications by Xin-She Yang, 2017. Advanced Engineering Mathematics" by Peter V. O'Neil, 2011 Advanced Modern Engineering Mathematics" by Glyn James, 3rd edition,2005		
Type of Teaching:	3 hrs, Theory per week. 1 hr Tutorial per week.		
Pre-requisites:	109		
Frequency:	Yearly in the spring semester		
Requirements for credit points:	For the award of credit points, it is necessary to pass the module exam. **Student attendance is required in all classes**.		
Credit point:	5		
Grade Distribution:	The final grade will be based on the following criteria; Mid-term exam **20%** + Class Room Activities, quizzes, assignments (during the course period) **20%** + Final exam **60%** = Total 100%		
Work load:	The workload is 120h. It is the result of 60h attendance and 60h self-studies.		