Date:	Examination No.: 1138	Version:1/9/2022	Start: 1/9/2022
Module Name - Code	Matrix Analysis of Structures		
Module Language:	English		
Responsible:	Asst. Prof. Dr Feirusha + M. Abdullah		
Lecture (s):			
College:	College of Engineering – Salahaddin University		
Duration:	15 week – 1 semester		
Course outcomes:	***Students should be able to:*** Use reference, technical literature, and standards to analyze the different types of the structure using Matrix Method. Choose computational models for real structures. Solve problems in the discipline manually and by using different commercial software programs such as Abaqus. by using different methods of analysis. be ready to the next steps (Design of Buildings and Structures).		
Course Content:	Considering the curriculum of the Matrix Analysis of Structures, here is the content of this discipline: Introduction + Matrix algebra Truss Analysis Using the Stiffness Method Beam Analysis Using the Stiffness Method Plane Frame Analysis Using the Stiffness Method Structural Modeling and Computer Analysis Basic Matrix Operations in Matlab Introduction to the finite element method 2D Truss example by Abacus 2D Beam example by Abacus (Linear)		
Literature:	▪ Key references: Structural Analysis R. C. Hibbeler. Structural Analysis Aslam Kassimali. Advanced Methods of Structural Analysis, Igor A. Karnovsky, Olga Lebed Structural Analysis, Matthew L. Camilleri Matrix Analysis of Structures Aslam Kassimali. ▪ Useful references: Fundamentals of Structural Analysis, with computer Analysis and Applications, Sujit Kumar. Computational Structural Analysis and Finite Element Methods- Kaveh A.		
Type of Teaching:	2 hrs in lectures 2 hrs Application		
Pre-requisites:	Structural Analysis		
Frequency:	Yearly in fall semester		
Requirements for credit points:	For the award of credit points, it is necessary to pass the module exam. The module exam contains: [Written 120 min] **Student's attendance is required in all classes**. .		
Credit point:	5		
Grade Distribution:	The Grade is generated from the examination result(s) with the following 20% activity 20% mid-term exam 60% final theoretical Exam		
Work load:	The workload is 150h. It is the result of 60h attendance and 90h self studies.		