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| Date: | Examination No.:  | Version: | Start:  |
| **Module Name - Code** | Engineering Mechanics – Dynamics |
| **Module Language:** | English |
| **Responsible:** | Dr. Mustafa Atrushi |
| **Lecture (s):** |  |
| **College:** | College of Engineering – Salahaddin University-Erbil |
| **Duration:** | 15 week – 1 semester |
| **Course outcomes:** | This course is a study of rigid bodies in motion as applied to engineering systems. We will study the dynamics of particle motion and bodies in rigid planar motion. This will consist of both the kinematics and kinetics of motion. Kinematics deals with the geometrical aspects of motion describing position, velocity, and acceleration, all as a function of time. Kinetics is the study of forces acting on these bodies and how it affects their motion. |
| **Course Content:** | Particle kinematics, particle kinetics, Euler’s law, motion of particles and mass centers of bodies, Work-Energy of systems of particles, planar rigid body kinematics, planar rigid body kinetics |
| **Literature:** | -[Engineering Mechanics: Dynamics - Barnes and Noble](http://gatech.bncollege.com/webapp/wcs/stores/servlet/ENGINEERING_MECHINTROTO_DYNAMICS/BNCB_TextbookDetailView?sectionId=59918688&item=Y&catalogId=10001&langId=-1&displayStoreId=15054&storeId=15054&partNumber=MBS_903221&productId=500001013646)-R. C. HIBBELER, 2013, Engineering Mechanics Statics, Thirteenth Edition, Pearson Education |
| **Type of Teaching:** | 2 hours lecture |
| **Pre-requisites:** | none |
| **Frequency:** | Spring semester |
| **Requirements for credit points:** | To earn the required credits, the student must fulfil the module tasks and exams.The module includes exams during the the semester, activities, and a final exam.**Students must attend the class.** |
| **Credit point:** | 3 |
| **Grade Distribution:** | The final grade for the module will be determined according to the following breakdown:Exam 1 10%Exam 2 10%Exam 3 10%Activities 10%One final Exam 60% |
| **Work load:** | The workload of this module is estimated to be 90 hrs. It is the result of 30 hrs in class study and 60 hrs self-study. |