

Date:	Examination No.: 15367	Version:1/9/2019	Start: 22/2/2021
<b>Module Name - Code</b>	Statics - 3106		
<b>Module Language:</b>	English		
<b>Responsible:</b>	Ms. Shivan Jawdat		
<b>Lecture (s):</b>	Ms. Khatoon Yaseen /MSc Mr. Abdulbasit Abdulqadir / MSc		
<b>College:</b>	College of Engineering – Salahaddin University		
<b>Duration:</b>	15 week – 2 <sup>nd</sup> semester		
<b>Course outcomes:</b>	<p>Understand the fundamentals of statics and dynamics.          Be proficient in using Statics and Dynamics to obtain solutions to engineering problems.          Know the value of engineering mechanics. Relate the fundamentals of Statics and Dynamics to practical applications. Develop documentation skills and correct professional technique. Develop “engineers’ eyes” so this course provides the following outcomes:</p> <ol style="list-style-type: none"> <li>1. Apply Mathematics</li> <li>2. Identify engineering problems</li> </ol>		
<b>Course Content:</b>	<p><u>Chapter one: Basic concepts &amp; Resultants of force systems</u>          Week 1 :- Introduction, course outline, Scalar and vector quantities. <b>Forces, composition and resolution of forces.</b>          Week 2 :- Moment of a force, principle of moments, couples, Transformation of a couple, and Resolution of a force into a force and a couple.          Week3:- Introduction, Resultant of a concurrent coplanar force system, Resultant of a non-concurrent coplanar force system          Week4: - Resultant of a concurrent, non-coplanar force system, <b>Resultant of a parallel, non-coplanar force system and resultant of couples in space.</b>  <u>Chapter Two : Centroid and center of gravity</u>          Week 5:- Introduction, center of gravity of a system of particles          Week 6:- The center of gravity of a body, Centroids and center of pressure  <u>Chapter Three : Second moment or moment of inertia</u>          Week7:- Introduction, The parallel axis theorem for areas, Second moment of area          Week 8: - Radius of gyration and Moment of inertia of composite areas  <u>Chapter four: Equilibrium and trusses</u>          Week 9:- Introduction, Free body diagram          Week10:- Equation of equilibrium for systems          Week 11: -Trusses          Week12: General procedure for solution of problems in trusses.  <u>Chapter five : Friction</u>          Week 13:- Introduction, Nature of friction          Week14:- Laws of friction and Coefficient of friction</p>		

	Week15: -Types of problems involving frictional forces, friction of V-belts, Frictional moments on thrust bearings and disk clutches.
<b>Literature:</b>	<ul style="list-style-type: none"> <li>• Engineering Mechanic's, Static and Dynamic by Archie Higden</li> <li>• Engineering Mechanic's, Static and Dynamic by Singer</li> <li>• Engineering Mechanic's, Static and Dynamic by Meriam And Kraige</li> <li>• Mechanic for Static's and Dynamic by Johnson</li> <li>• Engineering Mechanic's, Static and Dynamics by Schaum's</li> </ul>
<b>Type of Teaching:</b>	3 hrs. in lectures. 1 hr. in the tutorial.
<b>Pre-requisites:</b>	None
<b>Frequency:</b>	Yearly in Spring semester
<b>Requirements for credit points:</b>	For the award of credit points it is necessary to pass the module exam. The module exam contains: - Homework and quizzes, mid-term exam, and final exam. <b>Student attendance is required in all classes.</b>
<b>Credit point:</b>	5
<b>Grade Distribution:</b>	The Grade is generated from the examination result(s) with the following weights (w): Final exam: 60% Homework, quizzes, and other activities: 20% Mid-Term exam: 20%
<b>Work load:</b>	The workload is 150hr. It is the result of 60hr attendance and 90hr self-studies.