Identification	**Subject**	ENGR 205 Engineering Mechanics, 6 ECTS
	Department	Mechanical Engineering
	Program	Undergraduate
	Term	Fall 2022
	Instructor	Khalig Mammadov
	E-mail:	Khalig.mammadov1993@gmail.com
	Phone:	
	Classroom/hours	
	Office hours	
Prerequisites	Mathematics, Physics	
Language	English	
Compulsory/Elective	Compulsory	
Required textbooks and course materials	Engineering Mechanics: Statics, 9th *edition J.L. Meriam, L.G. Kraige and J.N. Bolton, 2018*	
Course outline	Engineering Mechanics is a physical science that mainly works to define the bodies force effects. It plays an important role in engineering analysis and also in industry. Engineering requires a comprehensive application of the principles of mechanics in subject to verify the effect of forces or other factors. Improvement of several fields is necessarily dependent on the principles of mechanic's applications which are central to run the research and provide a further overview in development of the subjects such as vibrations, fluid, flow, engine performance and etc. It is paramount to well understand the subject which is mainly be required in future tasks as well as in several engineering fields.	
Course objectives	Engineering mechanics is considered as a basic for many other fields which are being improved day by day. The topics being delivered during the subject will be fruitful at the civil engineering, mechanical and architectural engineering. Engineering mechanics are relied about statics and dynamics. Almost all the subjects being delivered via the current subject, these all are used in industry at the several version of engineering mechanics despite they are not completely related to the mechanical topics such as electrical components of a robotic equipment or manufacturing process of some items/ units. Hence, the engineering mechanics is very important to the engineering curriculum. This leads to provide a quite comprehensive guideline for solution of the problems in future important subjects including applied mathematics, physics, and material sciences etc. Moreover, student's understanding is being expanded for problem solving in current subject and ability of solution-oriented thinking is being developed.	
Learning outcomes	On successful completion of this course students will be able to: 1. Newton's laws of motion application to the real-life problems 2. Vectors and their applications in 2D, 3D coordinate systems 3. Identify the moment of a force and calculate its value about a specified axis. Define the moment of a couple. 4. Find out the force applications in different points 5. Construct "Free Body Diagrams" of real-world problems and apply Newton's Laws of motion and vector operations to evaluate equilibrium of particles and bodies. 6. Apply the principles of equilibrium of particles and bodies to analyze the forces in planar truss members. 7. Describe the overview of friction forces and analyze the equilibrium of rigid bodies work under those forces. 8. Find out the resultants of a general distributed load in a beam or other kind of structures and find out the shear force as well as bending moment in the structures.	

Teaching methods	**Lecture**		x
	Group discussion		x
	Experiential exercise		-
	Tutorials once a month on weekends		-
	Case analysis and assignments		x
	Course paper		-
	Others		-
Evaluation	**Methods**	**Date/deadlines**	**Percentage (%)**
	Midterm Exam		20
	Class Participation		10
	Assignment and quizzes		30
	Final Exam		40
	Total		100

Policy

- **Ethics**

Copy of other students' work is highly discouraged. All assignments must be handled by the student himself. This is a university policy and violators will be reprimanded accordingly.

- **Preparation for class**

The structure of this course demands your individual effort outside the classroom for extra practice of many problems within the textbook. After each session, every student needs to put sufficient time to practice and finish the assignments by the predetermined date.

- **Withdrawal (pass/fail)**

This course strictly follows grading policy of the School of Engineering. Thus, a student is normally expected to achieve a mark of at least 60% to pass. In case of failure, he/she will be required to repeat the course the following term or year.

- **Cheating/plagiarism**

Cheating or other plagiarism in handling the assignments, Mid-term and Final Examinations will lead to course failure. In this case, the student will automatically get zero (0), without any considerations.

- **Professional behavior guidelines**

The students shall behave in the way to create favorable academic and professional environment during the class hours. Unauthorized discussions and unethical behavior are strictly discouraged.

- **Attendance**

Attendance refers to the student's presence in classroom. Students should attend all classes. Failure to do so will result in the deduction of points from the 'attendance' component of their final grade. Ten percent (10%) of the total grade will depend upon attendance in class.

- **Quiz**

There will be quizzes during the semester. The questions will be relevant to the previous weeks' topics. If you read your assignments weekly, if you actively listen to the lectures and participate to the discussions you will be successful in answering the quiz questions.

Tentative Schedule

Week	Date/Day (tentative)	Topics	Textbook/Assignments
1		Introduction to statics	Chap 1
2-4		Force Systems	Chap 2
5-7		Equilibrium	Chap 3
8		**Midterm/ delivery of assignments**	Chap 4

9-10		Structures	Chap 4
11-13		Distributed Forces	Chap 5
14		Friction	Chap 6
15		Area and Mass Moments of Inertia	Appendix A & B
16		**Final Exam/ Delivery of assignments and Project**	