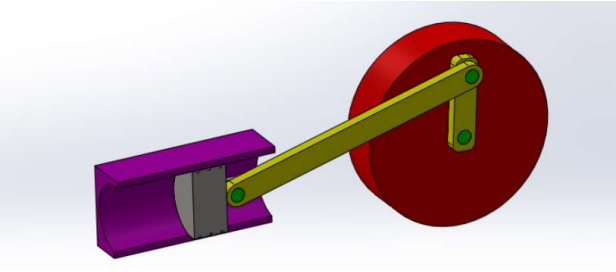
26.11.2025

MEE 203 DYNAMICS PROJECT DESCRIPTIONS

The aim of the project: You will design, built and analyze a slider-crank mechanism using simple materials such as wood, cardboard or plywood. The goal is to apply particle and rigid body kinematics/kinetics to a real physical mechanism.



Tasks:

1. Design the mechanism (crank length, connecting rod length, slider size)
2. Construct the mechanism using low-cost materials
3. Derive theoretical expression for sliders position, velocity and acceleration.
4. Record slider motion using video tracking video or simple sensors.
5. Compare calculated and measured results.
6. Prepare a final report and oral presentation.

NOTE: If you prefer motion tracking via video recording, you can use Tracker Video Analysis, Kinovea or other software for this purpose. If you want to obtain more reliable results, you can use a potentiometer for slider position measurement or an accelerometer sensor.

Instructions:

1. Each project team will consist of 6-7 students. Team members should be specified at the beginning of the project and will not change. Send the project members to me via e-mail to duygu.atci@ikcu.edu.tr until **03.12.2025**
2. The report should include all the calculations, technical details, drawings, photos, material and equipment that you use, production plan of your design. Deadline for the report submission is **23.12.2025**.
3. Date of the presentations are **December, 22-23.** There will be oral presentations and **each member of the project team must have a contribution to the presentation.** Detailed program for the presentations will be announced later.

IMPORTANT! The students who have successfully completed the project of this course last year, may take a passing grade for the project without attending any project again.

Midterm	Project	Final
25 %	25%	50%

Good Luck☺