	IZMIR KATIP CELEBI UNIVERSITY **FACULTY OF ENGINEERING ARCHITECTURE** **MECHANICAL ENGINEERING DEPARTMENT**	**Form No:** FRM-1 **First Pub Date:** 15/11/2016 **Rev. No/Date:** 25/01/2017

DESIGN PROJECT PROPOSAL FORM

Academic Year	**2022-2023**	**Semester**	Fall ☐ Spring **X**
Project Type	**Research** ☐ ME 411 Thermal & Fluid Design ☐ ME 413 Mechanical Design ☐ ME 415 Robotics & Control Design	**Application** ☐ ME 412 Thermal & Fluid Design ■ ME 414 Mechanical Design ☐ ME 416 Robotics & Control Design	
Advisor	Dr. Aydın ÜLKER		

Project Title	Design and manufacturing of a machine climbing over a rope
Purpose and Scope	The purpose of the project is to design and manufacturing of a machine that is climbing over an unstretched (free-ended) and randomly knotted polyester rope suspended from the ceiling. The machine is also expected to descend on the same path. **<u>Design Data and Constrains for the Project</u>:** Rope diameter : 10 mm Min. rope length : 3000 mm Rope material : Stranded polyester for nautical applications. Max. machine weight : 1,500 g Max. operation time : 20 minute Min. # of knots : 6 Positions of the knots : Random Min. height of the free end of the rope on the floor. : 500 mm * The machine cannot be supplied by the main voltage. * Styrofoam and cardboard cannot be used as a structural element
Work Packages	• Project Plan • Literature survey with a complete description of concepts that will be planned to use. • Conceptual design • Feasibility study • Embodiment design • Detailed design calculations (mechanical, electrical, etc.) • Detail engineering drawings (Exploded, assembly, and part drawings including electrical and wiring diagrams) • Cost analysis • User's manual • Complete Project Report
# of Team Members	• Maximum three senior students. • Students must be in 4th year standing to take this project. • It is strongly recommended that students should have passed design and manufacturing courses (ME 311, ME 312, ME 361, ME 362, and ME 413) before attempting to take ME 414

	IZMIR KATIP CELEBI UNIVERSITY **FACULTY OF ENGINEERING ARCHITECTURE** **MECHANICAL ENGINEERING DEPARTMENT**	**Form No:** FRM-1 **First Pub Date:** 15/11/2016 **Rev. No/Date:** 25/01/2017

This section will be filled by the Commission	The Project Proposal ☐ fulfills the regulations of the Department ☐ should be revised according to the following suggestions: