



HASAN KALYONCU UNIVERSITY
Civil Engineering Department
CE 499 Project Proposal Form

Part I. Project Proposer

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Part II. Project Information

Starting Term	2 0 2 0 / 2 0 2 1
Title of the Project	A Mechanically Stabilized Earth (MSE) Wall Design and Cost Estiamtion: A Case Study in Gaziantep 5 th Organized Industry
Project Description	
<p>In this project, one case study of a mechanically stabilized wall (MSE) wall in the city of Gaziantep and its cost estimation will be studied. In this study, students will design a retaining wall which has dimensions of 25 meter long and 5 m height. Basically, a Mechanically Stabilized Earth (MSE) retaining wall is a composite structure consisting of alternating layers of compacted backfill and soil reinforcement elements, fixed to a wall facing. The stability of the wall system is derived from the interaction between the backfill and soil reinforcements, involving friction and tension. The wall facing is relatively thin, with the primary function of preventing erosion of the structural backfill. The result is a coherent gravity structure that is flexible and can carry a variety of heavy loads.</p> <p>Following instructions will be conducted to design a retaining wall:</p> <ul style="list-style-type: none">• The suitable type of material for MSE retaining wall will be selected and then the design measurements (standards) will be considered.• The forces which have an effect on the wall will be calculated. Required designs can be done either by a software program or hand calculations.• Finally cost estimations of the retaining wall will be calculated under real market condtions.	
Project Justification	
Novelty	
New aspects	In this project, the students will be able to deal with standards about designing MSE retaining walls. The methods and techniques, which are required to connect between the soil properties and calculations will be also studied. In addition, cost estimation of the MSE retaining wall will be calculated by performing a series of surveying analysis.
Complexity	
Challenging problem and issues	The main challenge in this project could be addressed as how to make the student able to contact between his theoretical background, according to his previous undergraduate courses, and this practical project. The student should improve his skills to know how to collect all required information from separated resources and how to use it for study and design
Related civil engineering science fields and subfields	Geotechnical Engineering, Soil Mechanics, Engineering Geology, Cost Estimation.
Tools	Designs Standards, Software Programs (If possible).
Risk involved	

Potential problems and alternative solutions	The availability of computer programs. Alternatively, hand methods will be applied using equations according to geotechnical standards.
Minimum work required	<ul style="list-style-type: none"> • Sufficient knowledge and skills related Soil Mechanics and the Design standards. Therefore, to accept the student in this project he should be passed in introduction to soil mechanics, soil mechanics and foundation engineering. • 2 Students can be accepted in this project.