HASAN KALYONCU UNIVERSITY
Civil Engineering Department
CE 499 Project Proposal Form

Part I. Project Proposer

Name Last name	**Instr. Nurullah AKBULUT**	**E-mail**	**nurullah.akbulut@hku.edu.tr**

Part II. Project Information

Starting Term	2020/2021
Title of the Project	Retaining Wall Design: A Case Study of Malatya

Project Description

In this project, a case study of a retaining wall in the city Malatya will be studied. Retaining walls are construction elements which are calculated with a possibility of a little rotating in lower ends by the ground impulse, tried to balance the lateral pressures by its weights, have bigger flexural rigidity than curtains, make hard line deformations as well. These retaining walls may exhibit structural behaviors under the lateral impulses like sliding and/or tilting on the floor, entirely collapsing failure with the ground base. There are mainly three types of classical walls;

- Gravity (stone) walls
- Semi-Gravity (concrete) walls
- Console (reinforced concrete)

Following instructions will be conducted to design a retaining wall. The soil properties will be determined. The suitable type of the retaining wall will be selected and then the design measurements will be considered. Finally the forces which have an effect on the wall will be calculated.

Project Justification

Novelty	
New aspects	In this project, the students will be able to deal with the geotechnical tests which are done in the field and laboratory. The methods and techniques, which are required to connect between the soil properties and calculations will be also studied. In addition, result parameters will be used to make a design of a retaining wall.
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, Laboratory Tests,
Tools	ASTM, BS, and ASHTTO standards
Risk involved	
Potential problems and alternative solutions	The availability of computer programs. Alternatively, hand methods will be applied using equations according to geotechnical standards such as ASTM, ASHTTO and BS

Minimum work required	• Sufficient knowledge and skills related Soil Mechanics and the ASTM Test standards. Therefore, to accept the student in this project he should be passed in introduction to soil mechanics, soil mechanics and foundation engineering. • 1-2 Students can be accepted in this project.