



**MARMARA UNIVERSITY
FACULTY OF ENGINEERING
ENVIRONMENTAL ENGINEERING DEPARTMENT**

**ENVE 4197/4198 ENGINEERING PROJECT
PROPOSAL FORM
FALL 2023-2024**

Instructor : Doç. Dr. Neslihan Semerci

Project Title : Fertilizer Production from Domestic Wastewater Using Modified Zeolite Based on Circular Economy Principles (2209-A PROJESİ)

Proposal No. : 1

Number of Students : 3

Name of students: Rabia Selin Taşgın, İlayda Keçe, Hilal KOÇ

Scope of the Project : In the project, ammonia and phosphorus adsorption capacity of zeolite material will be increased with metal oxides modification. Batch and column experiments will be conducted to determine the maximum adsorption capacity. Reuse performance of the modified material will be investigated with various desorption solutions in batch experiments.

Hardware/Software/Lab/Equipment Requirements :

- Spectrophotometer
- Peristaltic Pumps
- Ammonia and Phosphate Kits

Development Plan :

- Composite zeolite material
- Batch adsorption experiments
- Continuous Column Experiments
- Batch Desorption Experiments