



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

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

Instructor : Esra Erken

Project Title : Color removal using persulfate activated iron nanoparticles

Proposal No. : Esra Erken_1

Number of Students : 3

(TÜBİTAK 2209 kapsamında desteklenen öğrenciler: Kevser Apari, Berçem Kırac, Yaren Arslan)

Requirements (from students): Students with strong interests in learning and conducting experiments in the lab, self-motivated and willing to work long hours as needed by the experiments.

Students will be expected to meet with the advisor on regular basis to discuss the progress of the experiments and results.

Scope of the Project :

- 1) Synthesize and characterize persulfate activated zero-valent iron nanoparticles
- (2) Investigate the influence of various operational parameters on degradation of dyes by iron nanoparticles

Hardware/Software/Lab/Equipment Requirements :

UV/Vis spectrophotometer, Nanoparticle size and zeta potential analyzer, magnetic stirrer, orbital shaker, pH meter, glove box, chemical hood

Development Plan :

- Literature review
- Synthesis of persulfate activated nZVI particles
- Removal experiments with lab synthesized zero valent iron nano particles

A written report is required. The report should be prepared according to http://dosya.marmara.edu.tr/fbe/tez_formlari/FBE_Tez_Yaz_m_K_lavuzu.pdf.



Also, a poster will be presented at the end of the semester and the **Environmental Engineering Department staff** will grade your work by evaluating your poster.