



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

**ENVE 497/498 ENGINEERING PROJECT
PROPOSAL FORM
FALL 2018-2019**

Instructor : Esra Erdim

Project Title: Aqueous hexavalent chromium removal by activated carbon impregnated zero-valent iron nanoparticles (AC/nZVI)

Proposal No: Esra Erdim_1

Number of Students : 2-3

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 activated carbon impregnated zero-valent iron nanoparticles (AC/nZVI)
- (2) Investigate the influence of different operational factors on the kinetics of chromium removal by AC/nZVI particles

Hardware/Software/Lab/Equipment Requirements :

Spectrophotometer, Nanoparticle size and zeta potential analyzer, magnetic stirrer, orbital shaker, pH meter, glove box, chemical hood

Development Plan :

- Literature review
- Synthesis of AC/nZVI particles
- Removal experiments with lab synthesized AC/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.