



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

**ENVE 497/498 ENGINEERING PROJECT
PROPOSAL FORM
FALL 2016**

Instructor : Assistant Prof. Esra Erdim

Project Title : Zero-valent iron nanoparticles (nZVI) for heavy metal removal

Proposal No. : Esra Erdim_1

Number of Students : 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 nZVI, 2) investigate the influence of different factors on the kinetics of heavy metal removal by nZVI particles

Hardware/Software/Lab/Equipment Requirements :

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

Development Plan :

- Literature review
- Synthesis of zero valent iron nano particles
- Removal experiments with synthesized zero valent iron nano particles

Interpretation of results, an oral presentation and a written report.