



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

**ENVE 497/498 ENGINEERING PROJECT
PROPOSAL FORM
FALL 2017**

Instructor : Deniz Akgül

Project Title : The effects of nanoparticles on Anammox

Proposal No. : (DenizAkgul-1)

Number of Students : max 3

Requirements (from students) : Enve 202 & Enve 302 courses

Scope of the Project: In the scope of this study the effects of TiO_2 and ZnO nanoparticles on Anammox bacteria will be investigated.

Hardware/Software/Lab/Equipment Requirements: Atomic absorption spectrofotometer, centrifuge, pH meter, oxygen meter, analytical balance, 105°C oven, 550°C muffle furnace, magnetic stirrer, incubator, peristaltic pumps, vacuum pumps.

Development Plan :

- Enrichment of Anammox culture
- Batch experiments for the determination of short term effects
- Continuous operation of the Anammox reactors with the selected NP concentrations.