**MARMARA UNIVERSITY**

**FACULTY OF ENGINEERING**

**ENVIRONMENTAL ENGINEERING DEPARTMENT**

**ENVE 4197/4198 ENGINEERING PROJECT**

**PROPOSAL FORM**

**FALL 2024-2025**

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| **Instructor : Prof. Dr. Kozet BAKIRCI**  **Project Title : Investigation of Anammox process in the presence of Granular Activated Carbon (GAC)**  **Proposal No. : 1**  **Number of Students :** Max 3-4 students  **Requirements (from students) : Tubitak 2209-A project will be written by the students for this topic.** |
| **Scope of the Project :**  The scope of this project is to test the Anammox process in the presence of Granular Activated Carbon (GAC). Possible outcomes of GAC addition can be shortening the start-up time of biological process (which can be a major drawback during Anammox studies) and improve nitrogen removal efficiency. |
| **Hardware/Software/Lab/Equipment Requirements :**  Background knowledge on ammonia, nitrite and nitrate measurement will be required to conduct experiments. |
| **Development Plan :**  - Four laboratory-scale Anammox reactors will be implemented: two with varying granular activated carbon types for experimental purposes, and two without GAC as control groups. Potential reduction in start-up time will be investigated.  - The reactors will be operated for an extended period to evaluate the disparities in nitrogen removal performance. |