**MARMARA UNIVERSITY**

**FACULTY OF ENGINEERING**

**ENVIRONMENTAL ENGINEERING DEPARTMENT**

**ENVE 4197/4198 ENGINEERING PROJECT**

**PROPOSAL FORM**

**FALL 2025-2026**

| **Instructor : Assoc. Prof. Deniz Akgül**  **Project Title : Utilization of Waste Polyurethane Foams as Biomass Carriers in Biological Systems**  **Proposal No. : 1**  **Number of Students :** (Max 2 students) 2  **Requirements (from students) : -** |
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| **Scope of the Project :**  Rigid polyurethane foams are produced as waste in various industries. Due to their limited degradability in natural environments, their waste management and disposal remain a considerable challenge. This study aims to investigate the potential use of waste polyurethane foams as biomass carriers.  A 2209-A TUBITAK project will be written by the end of the first term. |
| **Hardware/Software/Lab/Equipment Requirements :**  An ongoing lab scale Anammox reactor will be operated.  List of equipment: Spectrophotometer, pH meter, oxygen meter, analytical balance, 105℃ oven, 550℃ muffle furnace, magnetic stirrer, incubator, peristaltic pumps, vacuum pumps, COD thermoreactor. |
| **Development Plan :**   * Development of work plan * Preparation of TUBITAK project * Lab works |