**MARMARA UNIVERSITY**

**FACULTY OF ENGINEERING**

**ENVIRONMENTAL ENGINEERING DEPARTMENT**

**ENVE 4197/4198 ENGINEERING PROJECT**

**PROPOSAL FORM**

**FALL 2021**

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| **Instructor :** Zehra Semra Can  **Project Title :** Removal of Micropollutants using Cellulose Based Foam with Ionic Functionalities  **Proposal No. :** *ZehraSCan-1*  **Number of Students :** 4  **Requirements (from students):**  **\*\*\*** *Students should have a weekly schedule that is suitable to spend a minimum of* ***8 hours in the Environmental Engineering Lab at Göztepe Campus*** *each week.* |
| **Scope of the Project :**  Purifying wastewater from micropollutants is performed by several methods, and among these, adsorption receives the most attention because it is highly effective and has relatively low cost. Cellulosic materials such as lignin, chitosan, and hemicelluloses have recently received increased attention, and they are among the most evaluated materials as adsorbents for micropollutants from wastewater.  This work focuses on developing a novel foam material using natural polymers for the adsorptive removal of micropollutants. |
| **Hardware/Software/Lab/Equipment Requirements :**  Atomic absorption spectrophotometer, GC-MS, XRD, SEM, FTIR, zeta potential, sonicator, thermostated shaker, pH meter, analytical balance. |
| **Development Plan :**  Literature search on the subject to have a better understanding of adsorptive removal of micropolltutants.  Characterization of the novel adsorbent (Zeta Potential, XRD, SEM, sonication, FTIR).  Batch adsorption experiments.  Regeneration of the adsorbent.  To analyze the data and prepare a poster presentation and a written report. |