**MARMARA UNIVERSITY**

**FACULTY OF ENGINEERING**

**ENVIRONMENTAL ENGINEERING DEPARTMENT**

**ENVE 4197/4198 ENGINEERING PROJECT**

**PROPOSAL FORM**

**FALL 2021-2022**

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| **Instructor :** Mete Tayanç  **Project Title :** Daily Changes in Black Carbon Concentrations for Urban Mobility in Istanbul  **Proposal No. :** *MeteTayanc-1*  **Number of Students :** 3 Students  **Requirements (from students) :** Student should be able to spend a minimum of 4 hours each week. Student should have lab experience, especially on particulate matter sampling and analysis, and mobility to go to the sampling site. |
| **Scope of the Project :**  In this project students are expected to use black carbon data of a traffic sampling station in Beşiktaş and understand the daily variations in the concentrations with changes in urban mobility due to partial and total curfews within the framework of the pandemic restrictions. The thesis work can be organized into four main parts (1) gathering all necessary data, (2) organizing data according to curfew dates and times, (3) making necessary analysis and commenting on the results, (4), generating discussion and recommending on possible future traffic limitations and pedestrianization (like Sultanahmet or Beyoğlu) and writing thesis. |
| **Hardware/Software/Lab/Equipment Requirements :**  Black Carbon (BC) automatic analyzer  Computers with internet for accessing the necessary information and data  Software (like Office 365) to perform analysis and creating figures and tables, and writing thesis |
| **Development Plan :**   1. Literature review, reading, and writing throughout the term 2. Preparation of a comparison table with variations in BC concentrations due to curfew restrictions in urban areas (cities) over the world. 3. Downloading urban mobility data and meteorological data 4. Downloading air pollutant concentrations from the AQMN of Istanbul and preparation of graphs 5. Organization of results according to curfew dates and times in Turkey 6. Preparation of graphs and statistical analysis 7. Data analysis 8. Final thesis writing |