



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

**ENVE 498 SENIOR DESIGN PROJECT  
PROPOSAL FORM  
SPRING 2021**

**Instructor:** Nur H. Orak

**Project Title:** Seasonal Variation in Atmospheric Particulate Matter Pollution During COVID-19 Lockdown

**Proposal No.:** *NurHOrak-1*

**Number of Students:** 1-2 students

**Requirements (from students):** There is no prerequisites, but basic knowledge of air quality and statistics is recommended.

**Scope of the Project :**

Several studies reported that particulate matter (PM) can play a critical role with the transmission of COVID-19. The mechanism of this relationship is still not very clear so first it is important to explore the change in PM concentrations during the COVID-19 lockdown for future reference. Students will investigate the seasonal time series of PM between March and December of 2020 and compared with the associated dates in the previous years.

**Hardware/Software/Lab/Equipment Requirements :**

Hardware: A computer with internet connection

Software: MS Office or R

**Development Plan :**

Students will advance their environmental engineering, communication and teamwork skills through hands-on experiences by investigating the air quality data from the monitoring stations in Turkey. Students will also advance their understanding of the professional and ethical aspects of engineering projects.

A student in this course must write a proposal and submit progress reports to the advisor. The student must also make a formal presentation of the project results and submit a final report to the department by the end of semester.

1. Literature review and exploring published methods
2. Identification of data sources for air quality parameters
3. Data mining for the selected regions
4. Statistical analysis
5. Final thesis writing