**MARMARA UNIVERSITY**

**FACULTY OF ENGINEERING**

**ENVIRONMENTAL ENGINEERING DEPARTMENT**

**ENVE 4197/4198 ENGINEERING PROJECT**

**PROPOSAL FORM**

**FALL 2022-2023**

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| **Instructor :** Assoc. Prof. Sedat YALÇINKAYA  **Project Title :** Investigation of land surface temperature heterogeneity in municipal landfills by satellite images  **Proposal No. :**  **Number of Students :** (Max 4 students) 3  **Requirements (from students) :** Fundamental GIS knowledge, or registration to ENVE 4095 - Special Topics in Environmental Engineering II (GIS in Water Resources) |
| **Scope of the Project :**  Landsat-8 and/or Landsat-9 Thermal Infrared Sensor (TIRS) images will be downloaded for each month of the last year for the point of interest (Şile Kömürcüoda Landfill). Cloudiness of the images will be controlled. Land surface temperature for each month will be calculated and mapped using GIS. Hotspots will be determined by performing GIS-based statistical analyses. |
| **Hardware/Software/Lab/Equipment Requirements :**  Laptop or desktop with simple hardware and software installed.  ArcGIS software. |
| **Development Plan :**   |  |  | | --- | --- | | **Work Step** | **Schedule (weeks)** | | Literature review & software setup | 1-8 | | Data acquisition | 9-14 | | Data pre-processing & calculation of land surface temperature | 15-18 | | Hotspot analysis | 19-22 | | Final assessment | 23-25 | | Report wring & Poster preparation | 25-28 | |