**Graduation Project Proposal**

|  |  |
| --- | --- |
| Project Title | Mechanical characterization of carbon fiber(CF)/polyurethane (PU)/epoxy(EP) hybrid composites |
| Classification | Research project |
| Supervisor | Assoc. Prof. Dr. Bertan BEYLERGİL |
| Abstract | In this project, CF/PU/EP hybrid composites will be manufactured by vacuum assisted resin transfer moulding. First, fused deposition modeling (FDM) method will be used to manufacture PU layers at different weight densities and then those PU layers will be integrated into the composite layup before resin infusion. Three-point, Charpy impact and Mode-I fracture toughness tests will be carried out on the prepared hybrid composite systems. |

The graduation project is the subject of the MEC 401 Mechanical Engineering Design and MEC 402 Graduation Project courses offered in the 7th and 8th semesters, respectively.

|  |  |
| --- | --- |
| Course Name | MEC 401 Mechanical Engineering Design |
| Prerequisites | None |
| Corequisites | None |
| Requirements | Laboratory experience will be |
| Workflow | * Literature review * Manufacturing of hybrid composite systems * Midterm presentation * Mechanical tests * Project report * Final presentation |

|  |  |
| --- | --- |
| Course Name | MEC 402 Graduation Project |
| Prerequisites | None |
| Corequisites | None |
| Requirements | None |
| Workflow | * Experimental studies * Comments on the results * Midterm presentation * Project report * Final presentation |

|  |  |  |  |
| --- | --- | --- | --- |
| Term |  | | |
| Date |  | | |
| Project Title |  | | |
| Supervisor Name and Signature |  | | |
| Students | | | |
| First Name | Last Name | Student Number | Signature |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |