

 OSTİM TECHNICAL UNIVERSITY

**2023-2024 SEMESTER**

**GRADUATION PROJECT PROPOSAL FORM FOR MECHANICAL ENGINEERING DEPARTMENT**

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| **Lecture Code: MEC 400** | **Lecture Name: Graduation Project** |
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| **Project Title / Number of Students:** | **Effect of nano-Al2O3 additions to CFRPs on mechanical and fractural behavior** / 1 student |
| **WORKS AND PROCEDURE TO BE DONE IN THE PROJECT****(Put the item number on the left and write it in order)** |
| **Item**1. Literature review on the effect of nano-additions on mechanical behavior of carbon fiber reinforced epoxy composites (CFRPs) will be searched.
2. Mechanical/physical properties like tensile/flexural strength/hardness and density of CFRP composites will be calculated.
3. Tensile/Flexural properties of the composites will be measured with according to ASTM D 3039, ASTM D 790 standard and determined at room temperature.
4. Fracture surfaces of CFRP composites will be examined under SEM/AFM images.
5. XRD analysis will be done to see the atomic structure and its defects.
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| PROJECT AIMS |
| **Item**1. To understanding the characteristics of matrix/fiber and nano-reinforcement.
2. To investigate the mechanical (tensile/flexural) and physical properties.
3. To find out which types of fracture mechanics are dominated, and measured the elastic modulus and strength properties.
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| **THE STUDENT TO WORK ON THE PROJECT** |
| Number | Name Surname | Signature |
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| **SUPERVISOR** |
| TitleProf.Dr. | Name SurnameYusuf ŞAHIN | Signatureysahin |