



Hany Mostafa Fergany Hassan

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ABOUT ME

A dedicated and meticulous research assistant with extensive experience in testing and characterization of composite materials, particularly glass fiber-reinforced polyester (GFRP). My expertise includes performing tensile, flexural, impact, hardness, and vibration tests, as well as analyzing delamination and surface defects using optical microscopy. Proficient in using Minitab for data analysis and statistical interpretation, including performing ANOVA on experimental results. Skilled in AutoCAD for technical drawing, SolidWorks for 3D modeling, and toolpath creation with LogoTag and Lantek software for CNC operations. With a strong academic background, I excel in simplifying complex concepts for students and providing support in both laboratory settings and research phases.

RESEARCH AREAS OF INTEREST

Mechanical Engineering

- Composite Materials
- Additive Manufacturing (3D Printing)
- Smart Materials and Structures
- Nano-materials and Nanocomposites
- Advanced Polymers and Polymer Composites
- High-Performance Ceramics and Composites
- Metals and Alloys for Aerospace Applications
- Materials for Lightweight and Impact-Resistant Structures

WORK EXPERIENCE



RESEARCH AND TEACHING ASSISTANT – 17/08/2020 – CURRENT

- Researcher
- Tutor and marker

EDUCATION AND TRAINING

21/10/2020 – 28/01/2025

2025 – Assiut, Egypt M.SC. In Mechanical Engineering – Assiut University

Thesis title: " Study of Mechanical Properties and Drilling Characteristics of Multi-Layered Glass Fiber Reinforced Polyester "

- Fabricated multi-layer GFRP laminates using hand layup.
- Performed tensile, flexural, impact, and hardness testing.
- Conducted drilling experiments on a CNC milling machine to evaluate hole quality and delamination.
- Analysed the effect of stacking sequence and drilling parameters on mechanical behavior and damage.

15/09/2013 – 30/07/2018

2018 – Assiut, Egypt B.SC. In Mechanical Engineering – Assiut University

Ranked (The Second) in the Department of Mechanical Design and Production Engineering

Graduation Project: Design and Manufacturing of Injection Molds for Plastic and Rubber

- Designed and manufactured a small-scale injection molding machine in the workshops of Assiut University.
- Performed design calculations for heaters, barrel and piston, clamping force, and injection pressure.
- Participated in casting the machine body and machining critical parts.
- Gained hands-on experience in mold design, polymer processing, and manufacturing operations.

PUBLICATIONS

2025
[Experimental Investigation of Drilling Parameters Affecting Hole Quality in Glass Fiber/Polyester Composites](#)

<https://doi.org/10.21608/jesaun.2025.408174.1639>

Authors: Hany M. Fergany, Ibrahim M. Hassab-Allah, Yasser Abdelrhman | **Publisher:** Journal of Engineering Sciences (JES)

2025
[Effect of Number of E-Glass Fiber Layers on the Hardness of Fiberglass/Polyester Reinforced Plastics](#)

<https://doi.org/10.21608/jaet.2024.321159.1341>

Authors: Hany M. Fergany, Ibrahim M. Hassab-Allah, Yasser Abdelrhman | **Volume, Issue and Pages:** Volume 44, Issue 1, p260-263 | **Publisher:** Journal of Advanced Engineering Trends

Investigating the Effect of Layering in E-Glass Fibers on the Mechanical Characteristics of Fiberglass/Polyester Composites

Submitted to Engineering Research Express (Revisions requested – preparing resubmission)

Effects of Drilling Process Parameters on the Drilled Holes Quality in Glass Fiber/Polyester (GFRP) Composites: ANOVA

Under Process

Experimental and Analytical Evaluation of Flexural Behavior and Normalized Stress–Strain Characteristics in Hybrid Carbon/Glass Fiber-Reinforced Polymer Laminates

Under Process

LANGUAGE SKILLS

Mother tongue(s): **ARABIC**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B1	B2	B1	B1	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Technical Skills

- **Mechanical Testing:** Tensile, Flexural, Impact, Hardness, and Vibration Tests
- **Autocad:** Technical Drawing and Design
- **Solidworks:** 3D Modeling, Simulation, and Design for Mechanical Components
- **Logotag & Lantek Software:** CNC Nesting and Toolpath Preparation
- **Composite Materials:** Fabrication and Characterization of GFRP Composites
- **Optical Microscopy:** Analysis of Delamination and Surface Defects
- **CNC Machining:** Toolpath Creation and Understanding Machining Operations
- **Minitab:** Data Analysis and ANOVA for Experimental Results
- **C++ Programming Language** - Basic Level
- **Microsoft Office:** Word, Excel, and Powerpoint

Soft Skills

- Teaching and Mentoring: Assisting in Labs and Supervising Graduation Projects
- Communication: Clear Explanation of Complex Topics to Students and Colleagues
- Research & Reporting: Writing Reports, Papers, and Analyzing Experimental Data
- Problem Solving: Troubleshooting Lab and Machining Issues
- Time Management: Managing Teaching, Research, and Administrative Duties Efficiently

● **TEACHING EXPERIENCE**

Teaching Courses

- Stress Analysis
- Manufacturing Technology
- Mechanics of Machines
- Machine Drawing and Design
- Computer-Aided Machine Drawing and Design
- Mechanics of Materials
- Dynamics of Machinery
- Mechanical Vibrations
- Engineering Drawing
- Production Technology
- Production Engineering
- Engineering Materials and Their Applications
- Design and Production Laboratories
- Fundamentals of Mechanical Engineering

● **ASSISTANT SUPERVISOR FOR THE FOLLOWING GRADUATION PROJECTS AT THE MECHANICAL ENGINEERING DEPARTMENT**

Sample of Graduation Projects Supervised

- Design and Fabrication of a Shock-Protection Systems Using Composite Materials
- Designing a Sustainable Closed Loop Supply Chain: a Case Study Assiut University
- Airless tire

● **RECOMMENDATIONS**

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