

DEPARTMENTAL SCIENTIFIC RESEARCH PLAN (2026–2027)

#	RESEARCH TITLE	1ST AUTHOR	RANK	2ND AUTHOR	RANK	3RD AUTHOR	RANK	PLAN STATUS
1	Multiscale Numerical Analysis of Interfacial Architecture in Graphene/h-BN Heterostructure-Reinforced Polymer Nanocomposites	Dr. Thair Faiz Ahmed (Ph.D. Mech. Eng.)	Asst. Prof.	Aymen Sabah Rashad (Ph.D.)	Lecturer	Hassan Mahmoud Kydi (M.Sc.)	Asst. Lect.	Included
2	Inverse Design and Numerical Optimization of Graphene/h-BN Heterostructure Polymer Nanocomposites for Enhanced Thermo-Mechanical Performance	Dr. Thair Faiz Ahmed (Ph.D. Mech. Eng.)	Asst. Prof.	Hassan Mahmoud Kydi (M.Sc.)	Asst. Lect.	Aymen Sabah Rashad (Ph.D.)	Lecturer	Included
3	Using Diagram Software to Determine Water Suitability for Crop Irrigation	Alaa Emad Hameed (M.Sc. Water Res.)	Asst. Prof.	Aymen Sabah Rashad (Ph.D.)	Lecturer	Muhammad Bilal Yaser (M.Sc.)	Asst. Lect.	Included
4	Creep Behavior Analysis of Aluminum Alloy 1050 A1	Hussein Muhammad Ali (Ph.D.)	Professor	Ahmed Nayyef Rasheed (M.Sc.)	Lecturer	Hassan Ali (Ph.D.)	Lecturer	Included
5	Temporal Trajectory Optimization for Smooth Motion of a 4-DOF Robotic Manipulator via ROS2/Moveit2	Aymen Sabah Rashad (Ph.D.)	Lecturer	Thair Faiz Ahmed (Ph.D.)	Asst. Prof.	Hassan Mahmoud Kydi (M.Sc.)	Lecturer	Included
6	ROS 2-Based Singularity Detection and Avoidance for a Robotic System	Aymen Sabah Rashad (Ph.D.)	Lecturer	Thair Faiz Ahmed (Ph.D.)	Asst. Prof.	Aymen Sabah Rashad (Ph.D.)	Lecturer	Included
7	Hybrid Laminate ANSYS-Delamination Study	Hassan Mahmoud Kydi (M.Sc.)	Asst. Lect.	– Single Author / Departmental Collaboration –				
8	Optimization-Based Energy Management Framework for Off-Grid Connected PV-WT-Battery System for Enhanced Distribution Network Using Improved Nizar Optimization Algorithm	SUHA J ALHussinawi (Ph.D.)	Lecturer	Khalid Waleed Nasser (M.Sc.)	Asst. Lect.	ZAID KH SADANE (M.Sc.)	Asst. Lect.	Included
9	Quality Control and Testing Methods in Industrial Polymers	Dr. Hiba Mishaal Awwad (M.Sc.)	Lecturer	Maysam Saleh Mutlaq (M.Sc.)	Lecturer	– N/A –		Included
10	Design and Implementation of a Low-Cost Wearable Lower-Limb Alignment Monitoring System Using Dual MPU6050 Inertial Sensors	Firas Saad Al-Din Ahmed (M.Sc.)	Lecturer	Aymen Sabah Rashad (Ph.D.)	Asst. Prof.	– N/A –		Included
11	Wind Speed Forecasting Based on Artificial Intelligence Approaches	Firas Saad Al-Din Ahmed (M.Sc.)	Lecturer	Zouzan Saadallah Hussein (M.Sc.)	Lecturer	– N/A –		Included
12	Design of a Smart Upper Limb Prosthetic Using EMG Sensors and Arduino	Firas Saad Al-Din Ahmed (M.Sc.)	Lecturer	Thair Faiz Ahmed (Ph.D.)	Asst. Prof.	– N/A –		Included