
Automation Systems Engineering Technology

PROCTECH 4TR3: Capstone Design Project II

PROJECT PLAN

MASQ V1.0 - 5 Axis Robotic Arm

SUBMITTED BY

Marcus J Cameron – 400319790

Abdullah Aboutaha – 400312855

Shehab Ahmed – 400359237

September 18, 2026

Project Statement

The **MASQ V1.0** project focuses on the design, construction, and integration of a 5-axis robotic arm capable of controlled multi-joint movement and teach-and-repeat operation. The robot arm combines a 3D-printed mechanical structure, motor control and CAN-based communication, embedded electronics, and a custom teach pendant interface. This semester, the team will focus on completing the mechanical and electrical systems, integrating them with the existing software, calibrating joint movement, and validating the fully assembled robotic arm.

Project Timeline

The table below outlines the major milestones required to complete MASQ V1.0– 5 Axis Robotic Arm.

Task / Milestone	Target Deadline	Responsible
Requirements gathering & literature review	Sep 18	Abdullah
Electrical & controls design	Sep 20	Marcus
Code Handoff	Sep 27	Marcus & Shehab
Parts procurement / BOM finalization	Oct 9	Abdullah
Full Mechanical design & 3D Printing	Oct 25	Marcus
Mechanical assembly & wiring	Oct 31	Marcus
Software & programming architecture	Nov 15	Shehab
Integration & calibration	Nov 25	Shehab
Testing & validation	Nov 27	All
Final report & presentation	Dec 3	All