AME 30358 – Score Sheet

M4 – Stepper Motor and Linear Gantry

Name(s):_____

The following items will be *demonstrated* to the lab instructor during the allotted lab time. Credit will not be given for portions completed outside of lab.

Item and Description	Points Awarded	Possible Points
Part I: Stepper Motor and Driver Board The stepper motor spins smoothly, receiving pulses from the function generator.		5
Part II: Microcontroller Implementation The stepper motor repeatedly rotates one full revolution clockwise, then rotates another full revolution counter-clockwise.		5
Part III: Mechanical Assembly The linear belt drive system is properly assembled. The motor moves the gantry cart back and forth.		4
Part IV: Actuator Calibration The calibration constant looks correct.		2
Part V: Limit Switches The limit switches are properly mounted, and they disable the motor before the cart crashes.		4
Part VI: Auto-calibration The cart “finds” both limit switches, then comes to rest in the home position. The printed calibration constant looks correct.		3
Part VII: Position Control The serial monitor asks for a position (cm). The cart moves to the position entered by the user. A warning message is display to prevent crashing.		3
Clean-up The students returned the lab bench to its initial state.		2
TOTAL		28