AME 20216 – In-Lab Score Sheet

A11 – Flight Control System

Name(s):_____

For more details on any of the items below, please refer to the lab handout.

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: Microcontroller and Analog Joystick The joystick output is printed in the serial monitor as an integer between 0 and 1023. The joystick values for home, max, and min have been recorded.		3
Part II: Servo Motor and Four-bar Linkages The servo moves the elevator flap to a sufficient angular range. The servo angle for home, max, and min flap angle have been recorded.		3
Part III: Design Challenge 1 The elevator flap angle can be controlled using the joystick with sufficient sensitivity. Flap returns to home at $\delta_e = 0°$ when joystick is released.		3
Part IV: Inertial Measurement Unit (IMU) The IMU measures the pitch angle and prints it to the serial monitor.		2
Part V: Design Challenge 2 The joystick value, servo angle, and measured pitch angle are printed to the serial monitor in the correct format. The student can use the joystick to trim the pitch angle to 10 or -10 degrees within an error of 1 degree.		2
Clean-up The students returned the lab bench to its initial state.		1
TOTAL		14