

# AAE 364 Control Systems Analysis

## Problem Set 1

Professor Inseok Hwang

School of Aeronautics and Astronautics, Purdue University

Fall 2019

**Issued 8/23; Due 8/30**

### **Reading Assignment:**

Chapter 1.

Paper “Eighty Years of Flight Control: Triumphs and Pitfalls of the Systems Approach”.

### **Problem 1**

Choose an open-loop control system (e.g., washer) and a closed-loop control system (*e.g.*, aircraft) that, you think, illustrate the characteristics of control systems well. Identify the input and output, the controller, and the plant for each system. Draw functional block diagrams as detailed as you can.

### **Problem 2**

Choose your favorite aircraft or spacecraft and list as many control systems installed in it as you can. Choose one control system from the list, draw its functional block diagram, and explain how it works in detail.