

# ECE 6200 Lecture I Definitions

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**Definition 0.1** (System). A **system** is an entity (physical/logical) formed with the interconnections of elements or subsystems that map certain inputs to the outputs and serve a purpose.

**Definition 0.2** (Control System). A **control system** is a system which modifies the inputs of the target system (process or plant) to be controlled in order to achieve a desired output, note that a control system satisfies the definition of a system as well.

**Definition 0.3** (Open-Loop Control System). An **open-loop control system** utilizes an actuating device to control the process directly without using feedback.

**Definition 0.4** (Closed-Loop Control System). A **closed-loop control system** uses a measurement of the output and feedback of this signal to compare it with the desired output.

*Remark.* We will come back to the definition of a linear feedback control system throughout the semester using the Antenna Azimuth Control example in the course. However, we (meaning myself) will explore other applications in ME, AE, CEE, etc.