# MEC 450/550: Mechatronics (Fall 2023)

#### Amin Fakhari, Ph.D.

Department of Mechanical Engineering

Stony Brook University

# Ch1: Introduction to Mechatronics



# **Introduction to Mechatronics**



### Mechatronics

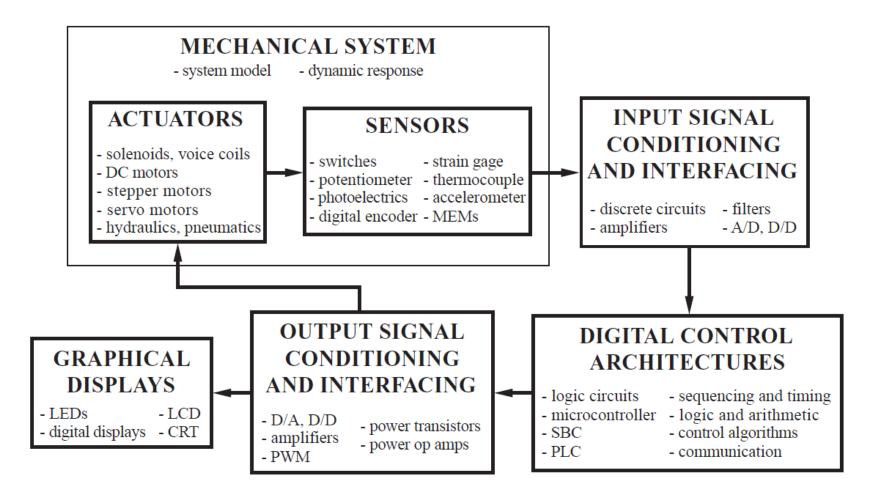
The word **Mechatronics** was invented by a Japanese engineer in 1969, as a combination of **'mecha'** from mechanics/mechanisms and **'tronics'** from electronics.

**Mechatronics** is an interdisciplinary, integrated, and concurrent approach to engineering design which integrates the traditional boundaries of mechanical engineering, electrical engineering, computer engineering/science, and control engineering in the design and manufacture of products and processes.



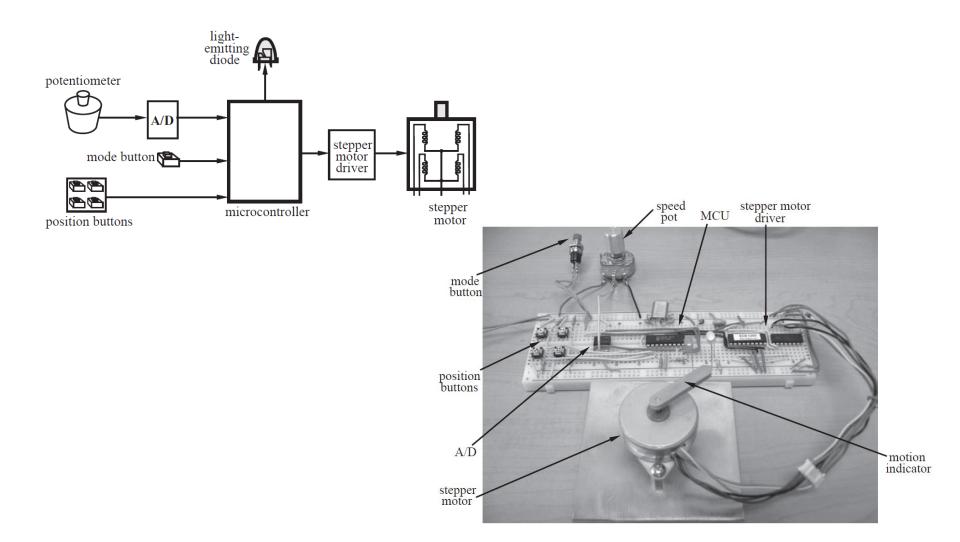


## **Mechatronic System Components**





#### **Example: Stepper Motor Position & Speed Controller**





#### **Example: DC Motor Position & Speed Controller**

