Syllabus Robotics & Industrial Processing Class

All students will maintain an engineering notebook for lab work ethics and participation.

Class outline:

1. Engineering 101
2. Engineering a Project
    a. Concepts and planning
    b. Who will do it?
    c. Make, Break, or Buy
    d. ROI
3. System level components/integration
    a. Electrical
        i. Hard programed vs. AI
        ii. PLC
        iii. Computer
    b. Pneumatics/hydraulics – **SAFETY**
    c. Drive systems
    d. Motion control
4. System level
    a. Factory level
    b. Process center
    c. Machine Cell
5. Specialized components
6. Conveyer systems

7. Robots
    a. Mounted arm
        i. Degree-of-Freedom
        ii. Types of bots
        iii. Actuation
        iv. End-effector
    b. AGV – Automated/Autonomous Guided Vehicle