Syllabus Robotics & Industrial Processing Class

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

Class outline:

1. Engineering 1Ø1
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