**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
	1. Concepts and planning
	2. Who will do it?
	3. Make, Break, or Buy
	4. ROI
3. System level components/integration
	1. Electrical
		1. Hard programed vs. AI
		2. PLC
		3. Computer
	2. Pneumatics/hydraulics – **SAFETY**
	3. Drive systems
	4. Motion control
4. System level
	1. Factory level
	2. Process center
	3. Machine Cell
5. Specialized components
6. Conveyer systems
7. Robots
	1. Mounted arm
		1. Degree-of-Freedom
		2. Types of bots
		3. Actuation
		4. End-effector
	2. AGV – Automated/Autonomous Guided Vehicle