Syllabus for SY202 Cyber Systems Engineering – Spring AY19

(Subject to change)

Month	Monday	Tuesday	Wednesday	Thursday
January 2019	**7** No Class	**8** First Day of Class (Monday Schedule) Intro to Cyber Eng.	**9** Mechatronics & Functional Block Diagrams	**10**
	14 Snow Day	**15** SCADA Systems / Modeling Mech. Syst.	**16** Transfer Functions	**17**
	21 No Class MLK Day	**22** Lab #1: MATLAB and Simulink	**23** Transfer Functions: Block Reduction	**24**
	28 System Response	**29** Lab #2: CPS Simulation	**30** System Response	**31**
February 2019	**4** PID Control	**5** Lab #3: System Response	**6** PID Control	**7**
	11 Exam I Review	**12** Lab #4: Simulation of PID Control	**13** Exam I	**14**
	18 No Class Washington's Birthday	**19** Embedded Systems ICE: mbed Tutorial	**20** Snow Day	**21**
	25 Serial Comm I	**26** Lab #5: Intro to mbed (Morse Code)	**27** Serial Comm II	**28**
March 2019	**4** Actuators	**5** Lab #6: Serial Comm (Morse Code II)	**6** Actuators / Real-Time Control	**7**
	11 Spring Break	**12** Spring Break	**13** Spring Break	**14** Spring Break
	18 Sensors	**19** Lab #7: Actuators	**20** Instructor ICE: Sensor Calibration	**21**
	25 Project I: Elevator (Simulation)	**26** Project I: Elevator (Sensor Calibration)	**27** Project I: Elevator (Logic Control)	**28**
April 2019	**1** Project I: Elevator (Logic Control)	**2** Project I: Elevator (P and PI)	**3** Exam II Review	**4**
	8 Exam II	**9** Project I: (Wrap – Up) COMP TIME	**10** NCS and Cyber Attack Examples	**11**
	15 Cyber Attack Detection & Performance Recovery	**16** Project II: NCS (Simulation)	**17** Project II: NCS (CAN Bus: Read/Wite)	**18**
	22 Project II: NCS (PI Control)	**23** Project II: NCS (Stealth Attack)	**24** Project II: NCS (Replay Attack)	**25**
May 2019	**29** Project II: NCS (Wrap-Up)	**30** Project II: NCS (Demo) Final Exam Review	**1** Review & Study Day	**2** Start of Final Exams
	6	**7**	**8**	**9**

Notes:

- Week of April 8 -11: Frontera will be gone all week and Rodriguez will be gone at least Monday and Tuesday. Therefore, I am moving exam for that Monday (rather than academic reserve week)
- Project I: Elevator can be minimized. For one: we could eliminate the simulation part?