**EET 273 Motor Controls II**

**Lab for Spring (Version 2/12/20)**

**All of the Lab Quizzes combined will be equal to the Midterm Project, which will be equal to the Final Project and all are worth 15% or 40% of your final grade.**

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|  | Quiz 1: PLC 3-Wire Start (may be built after Lab 1) |
|  | Quiz 2: PLC FRMS (after Lab 2) |
|  | Quiz 3: Sequential Motor Starter (after lab 3) |
|  | Midterm: PLC FRMS with GUI (after lab 4) |
|  | Quiz 4: VFD FRMS circuit (after AC Drive Labs 1-1, 1-4 and 1-5) |
|  | Quiz 5: PLC+VFD FRMS (after Lab 5) |
|  | Quiz 6: PLC+VFD FRMS w/ Braking (after Lab 6) |
|  | Final Exam Lab: PLC+VFD FRMS with GUI I/O (after Lab 7) |

**The Labs below will be worth 15% or 40% of your final grade.**

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| **The first 10 labs must be completed in the order below:** |
|  | PLC Lab 1: PLC 3-Wire Start Program (before Quiz 1) |
|  | PLC Lab 2: PLC FRMS Program (before Quiz 2) |
|  | PLC Lab 3: Sequential Starter Program (before Quiz 3) |
|  | AC Motor Drives Lab 1-1 VFD Introduction  |
|  | AC Motor Drives Lab 1-4 VFD Current Protection  |
|  | AC Motor Drives Lab 1-5 VFD Breaking |
|  | PLC Lab 4: PLC FRMS with GUI Program (before Midterm) |
|  | PLC Lab 5: PLC+VFD FRMS Program (before Quiz 5) |
|  | PLC Lab 6: PLC+VFD FRMS w/ Braking Program (before Quiz 6) |
|  | PLC Lab 7: PLC+VFD FRMS with GUI I/O Program (before Quiz 7) |
| **The labs below do not have to be completed in any particular order** |
|  | Lab 8: PLC Counter/Clock |
|  | Sensors Lab 1: Intro To Proxes |
|  | Sensors Lab 2: Background Suppression Photodetector |
|  | Sensors Lab 3: Retroreflective Photodetector |
|  | Sensors Lab 4: Capacitive Prox |
|  | Sensors Lab 5: Inductive Prox |
|  | Sensors Lab 6: Limit Switch |
|  | AC Motor Drives 1-2 Volts Per Hertz |
|  | AC Drives 1-3: Ramp and Torque Boost |
|  | DC Drives 2-1 Overview |