

Instructor: Jeff Wagner
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Email: jeffwagner@kennesaw.edu
Office Hours: Tu/Th 8:15am–9:15am, 4:30pm–5:00pm, 9:15pm–9:45pm

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Lecture: Q-105 Tu/Th 8:00-9:15pm
Lab: Q-215 Tu/Th 5:00-7:45pm

COURSE OBJECTIVE: This course provides a study of motor starters, motor controllers, and variable frequency drives, with a primary focus on those associated with three-phase induction motors. The motor starter coverage will include both full-voltage and reduced-voltage methods. The motor controller coverage will include both traditional (relay-logic) techniques and techniques that utilize Programmable Logic Controllers (PLCs). The laboratory portion of the course will consist of several experiments that focus on the analysis, design, construction, operation and testing of various motor starters and controllers. Ladder-logic based PLC programming will also be covered in both the lecture and the laboratory portions of the course. The course will conclude with a final design project that focuses on the practical implementation of a complex motor control system.

GRADING POLICY: The overall course grade will be based on the following:

In-Class Exams	45% of final grade	← Exam 1 – 20% / Exam 2 – 25%
Laboratory Assignments	15% of final grade	← Details presented during 1st lab session
Final Design Project	40% of final grade	← Details provided with project presentation (mid-semester)

Note: Although the numerical course grade is based on the above-stated percentages, students must receive a passing grade of at least 65% on the **Final Project** in order to receive an overall passing grade for the course. Students receiving a grade less than 65% on the Final Project will be assigned an “F” for the overall course.

GRADE DISTRIBUTION: A 90+, B 80-89, C 70-79, D 65-69, F below 65

ATTENDANCE POLICY: Students ***are*** required to attend all of the scheduled lecture and laboratories sessions and to take all of the course exams during the times that they are scheduled.

In the case of a missed **lecture session**, the student is responsible for obtaining any information or assignments provided during the missed session.

In the case of an **in-class exam** that is missed due to unpreventable circumstances:

“Make-up exams” are only given at the instructor’s convenience♦ provided that the student has contacted the instructor directly♦♦, either in-person or by phone call, as soon as possible after missing the scheduled exam.

Note – no “make-up exams” will be given after the regularly-scheduled exams have been graded and returned to the class. If a missed exam is not “made-up” before the graded exams have been returned to the class, then a grade of zero will be assigned for the missed exam.

In the case of a **laboratory session** that is missed due to unpreventable circumstances:

Students have one week to “make up” a missed laboratory session at the instructor’s convenience♦. Failure to make up the missed session within the required timeframe will result in a grade of zero being assigned for all work associated with the missed session.

Note – attendance may be taken at the beginning and/or ending of each laboratory session. Arriving more than five minutes late or leaving early will result in the session being counted as an absence.

- ♦ – “at the instructor’s convenience” does **not** guarantee the instructor’s availability to allow for “make-up” material within the required timeframe; therefore every effort should be made to attend all scheduled exams and laboratory sessions.
- ♦♦ – sending an email/text or leaving a voice-message is **not** considered “adequate” in terms of contacting the instructor.

OFFICE HOURS: The instructor will try to be available during the regularly scheduled office hours. Appointments for office consultations during other-than-posted times may be scheduled by contacting the instructor directly.

Note: At times, office hours may be held in the Q-215 lab. A sign will be posted on the Q-224 door if the instructor is available in Q-215, or if the instructor is temporarily unavailable during scheduled office hours due to attendance of a faculty meeting or other event.

LAB ASSIGNMENTS: Each (non-report based) lab assignment must be submitted by the end of the scheduled lecture session on the due-date that is posted for the assignment.

All lab assignments must be completed individually with no collaboration between students and submitted in the form of neat and orderly set of hand-written solutions that are written single-sided on blank sheets of paper.

LATE SUBMISSIONS: Lab Assignments submitted after their deadline may be penalized on a 10% per *calendar* day basis, but with a one-lecture grace period allowed for each Lab Assignments before any penalties actually incur. After the grace period expires, a 10% penalty will be assigned to the submission for each calendar day past the due-date including those days associated with the grace period.

EXAM CORRECTIONS: Students may submit “corrections” to their exams in order to have a percentage (typically 15%) of the points that they lost due to exam errors added back into their exam score.

Exam corrections should be submitted within one week after the graded exams were returned to the class.

Corrections must be completed in a neat and orderly manner and written single-sided on blank sheets of paper that are stapled to the back of the original exam booklet. Do **not** change or make any corrections on the original pages of the exam booklet.

FINAL DESIGN PROJECT: The final project for this course will be a team-based design project that involves the design of a complex motor-control system.

The actual project will be assigned mid-semester, at which time the exact details and requirements will be provided.

Note – the details of final project assigned during the previous offering of the course will be available on-line for students to view during the first few weeks of the semester.

CONTACTING THE INSTRUCTOR: The instructor may be contacted by phone/email/text as needed.

Phone consultations are available on a 24/7 basis with the understanding that calls will only be answered when they will not interrupt the instructor’s other activities. Although “voice-messages” can be left for the instructor if the instructor is not immediately available, a “written” form of communication (email/text) is preferred.

Notes: *Replies to “text-messages” will be in the form of traditional phone calls. “Anonymous” phone-calls will always be sent directly to voicemail. Additionally, there may be a notable delay in responses to emails sent on non-lecture days.*

ACADEMIC HONESTY: All institute policies will be strictly enforced. (See SPSU Undergraduate Catalog for details)

ADA/504: Students with disabilities that require accommodation in this course must first contact SPSU’s Disability Services and have the required paperwork provided by Disability Services before contacting the instructor.

ELECTRONIC DEVICES: Phones/computers must be set to silent-mode during all lecture and laboratory sessions.

Only “traditional” calculators are allowed on the desktops during the exams; other devices must remain out-of-sight.