

## ETI 1843 Motors and Controls

**Instructor:** Alessandro Anzalone, Ph.D.  
**Class Location:** Room 218, BSSB  
**Class Time:** Tuesdays 9:30am-12:15pm  
**Office Hours:** Tuesdays 2:00-4:00pm, other times by appointment.  
**Office:** BSSB 213e  
**Phone:** (813) 253-7852  
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### Course Description:

This course explores the theory and application of AC and DC motors. It covers how different types of motors operate and how electronic motor control systems are designed and can be used to improve efficiency in a wide range of applications.

### Course Outcomes:

Upon completion of the course the student should be able to:

1. Demonstrate an understanding of the principles of magnetism, and the electrical and mechanical concepts associated with motors and generators.
2. Describe DC motor construction and classification by identification and description of the major components.
3. Describe AC motor construction and classification by identification and description of the major components.
4. Identify the types of starters, solenoids, relays, timers, and switches that comprise a motor control circuit.
5. Write a ladder diagram and a schematic diagram for the starting of both AC and DC motors.
6. Distinguish the differences and understand the applications of wound-field DC motor control, brushless DC motor control, stepper motor control, induction AC motor control, synchronous AC motor control, and PLC/digital motor control.

### Textbook and Materials:

**Required:** Electric Motors and Control Systems, Frank Petruzella, McGraw Hill, ISBN: 978-0-07-352182-4.

**Academic Dishonesty Policy:** All parties identified as cheating or plagiarizing on an exam, project or assignment will be assigned a grade zero on that item and subject to academic discipline in accordance with HCC policy.

**Attendance Policy:** It is important that you attend every class period and be on time. Missing class means that you miss some important material. Since this course is a cumulative experience, you will put yourself at an extreme disadvantage.

1. It is your responsibility to sign the attendance sheet provide at every class meeting.
2. If you are absent, it is your responsibility to get announcements, materials, and assignments before the next class period.
3. More than 3 absences per semester are considered excessive and will result in points taken off your final grade for the unexcused absences after the third absence. Please note that excused absences must be documented and may be death or illness of family members, personal illness, military duty, car trouble, etc.

**Instructional Methods (including Examination Policies):**

This course combines traditional lectures with case studies.

Students will be evaluated via class participation, midterm, course project, and final exam.

1. Unexcused absences on test day will receive a zero for that test.
2. Tests will be closed book closed notes. Reference materials will be provided if required.
3. Tests will be short answer, T/F, multiple choices, and some problems.
4. Please contact me by email or phone if at all possible before the time of the test (leave a voice message) in the event you have to miss a test.
5. No retests will be given for any exams that have been taken.
6. Every student will be required to take the final exam.
7. Make up tests from excused illnesses must be made up within 2 weeks of the absence and the test may be of a different format than the class test.
8. If you are auditing this class, it must be declared at registration.
9. Some work will be competency-based and assessed accordingly.

**Grading System:** The final grades will be determined on the following basis:

- 90 - 100 A
- 80- 89 B
- 70 - 79 C
- 60 - 69 D
- 0 - 59 F

**Request for Accommodations:**

If, to participate in this course, you require an accommodation due to a physical or learning impairment, you must contact the Office of Services to Students with Disabilities. The office is located in the Student Services Building, BSSB 109. You may also reach the office by telephone at (813) 253-7914 {voice line}.

**Religious Observances:**

HCC will reasonably accommodate the religious observances, practices, and beliefs of students in its admissions, class attendance, and examination policies and work assignments. Students must notify instructors at least one week prior to a religious observance.

**Class Schedule**

<b>Date</b>	<b>Chapter</b>	<b>Assignment</b>
<b>08/24</b>	Introduction to the course	
<b>08/31</b>	Chapters 1 and 2	
<b>09/07</b>	Chapter 2 (continued)	
<b>09/14</b>	Chapter 3	
<b>09/21</b>	Chapter 3 (continued) and Chapter 4	
<b>09/28</b>	Chapter 4	
<b>10/05</b>	Chapter 5	
<b>10/12</b>	Chapter 5 (continued)	
<b>10/19</b>	Midterm	
<b>10/26</b>	Chapter 6	
<b>11/02</b>	Chapter 7	
<b>11/16</b>	Chapter 7 (continued)	
<b>11/30</b>	Chapter 8	
<b>12/07</b>	Chapter 10	
<b>12/14</b>	Final Exam	

This Class Schedule is subject to change.