

INSTRUCTOR'S COURSE REQUIREMENTS

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COURSE: ELC 117 Motors and Controls

SEMESTER & YEAR: SPRING 2014

INSTRUCTOR'S NAME	SECTION #	CLASS MEETING TIME	OFFICE HOURS AND OTHER CONTACT INFORMATION
Billie Adeimy	01	Class: T TH 11:10 am – 12:00 Lab: T TH 12:10 – 3:00 pm	Office: Forte 327 Phone: (910) 410-1901 Email: bladeimy@richmondcc.edu Office: M W 10:30 am - 12:00 pm F 10:00 am - 12:00 pm
Billie Adeimy	02	Class: T TH 11:10 am – 12:00 Lab: T TH 3:10 – 6:00 pm	
Brian Terry	1E	M -W 6pm- 9:50pm	Office Hours: Mon/Wed, 10:00-11:30 <u>Forte 327</u> Tue/Thu, 10:00-11:00 Email: cbterry@richmondcc.edu

METHODS OF INSTRUCTION AND EVALUATION:

STUDENT LEARNING OUTCOMES	METHODS OF INSTRUCTION	SUCCESSFUL PERFORMANCE/BEHAVIORAL INDICATORS	METHODS OF EVALUATION
1. Recognize rotating electrical machinery.	<ul style="list-style-type: none"> ▪ Lecture ▪ Demonstration ▪ Lab 	<ul style="list-style-type: none"> ▪ Identify major parts of electrical machines ▪ Describe four(4) motor enclosure types ▪ Compare AC machinery to DC machinery 	<ul style="list-style-type: none"> ▪ Lab Performance ▪ Exam
2. Connect and test-operate rotating electrical machinery.	<ul style="list-style-type: none"> ▪ Lecture ▪ Lab 	<ul style="list-style-type: none"> ▪ Identify motor terminal markings ▪ Explain different power sources for motors ▪ Describe how to reverse the direction of rotation of electrical machines 	<ul style="list-style-type: none"> ▪ Lab Performance ▪ Exam

STUDENT LEARNING OUTCOMES	METHODS OF INSTRUCTION	SUCCESSFUL PERFORMANCE/BEHAVIORAL INDICATORS	METHODS OF EVALUATION
3. Perform basic troubleshooting on rotating electrical machinery.	<ul style="list-style-type: none"> ▪ Lecture ▪ Lab 	<ul style="list-style-type: none"> ▪ List three (3) test procedures to check motors ▪ List steps to check motor windings with an ohmmeter 	<ul style="list-style-type: none"> ▪ Lab Performance ▪ Exam
4. Identify the major parts of magnetic starters.	<ul style="list-style-type: none"> ▪ Lecture ▪ Demonstration ▪ Lab 	<ul style="list-style-type: none"> ▪ List ten (10) parts found on magnetic contactors ▪ List thirteen (13) parts found on magnetic starters ▪ Explain the purpose of major contactor and starter components 	<ul style="list-style-type: none"> ▪ Lab Performance ▪ Exam
5. Connect motors to manual and magnetic controls.	<ul style="list-style-type: none"> ▪ Lecture ▪ Lab 	<ul style="list-style-type: none"> ▪ Identify wiring terminals and connections ▪ Describe differences in manual and magnetic controls ▪ Explain applications for manual and magnetic controllers 	<ul style="list-style-type: none"> ▪ Lab Performance ▪ Exam
6. Layout, rough-in, trim-out, and complete basic motor control circuits.	<ul style="list-style-type: none"> ▪ Lecture ▪ Lab 	<ul style="list-style-type: none"> ▪ List rough-in and trim-out steps ▪ Discuss control power schemes ▪ Describe control circuit arrangements 	<ul style="list-style-type: none"> ▪ Lab Performance ▪ Exam
7. Connect various jogging and reversing circuit arrangements.	<ul style="list-style-type: none"> ▪ Lecture ▪ Lab 	<ul style="list-style-type: none"> ▪ List rough-in and trim-out steps ▪ Discuss control power schemes ▪ Describe control circuit arrangements 	<ul style="list-style-type: none"> ▪ Lab Performance ▪ Exam
8. Perform basic troubleshooting on motor control circuits.	<ul style="list-style-type: none"> ▪ Lecture ▪ Lab 	<ul style="list-style-type: none"> ▪ List steps to efficiently troubleshoot problems in a motor and motor control circuit. ▪ Discuss appropriate equipment and procedures to test and repair problems 	<ul style="list-style-type: none"> ▪ Lab Performance ▪ Exam
9. Discuss the impact of the safe usage of electricity in a global context.	<ul style="list-style-type: none"> ▪ Lecture 	<ul style="list-style-type: none"> ▪ Compare electrical equipment variations ▪ Discuss differences in wiring practices used in North America and abroad 	<ul style="list-style-type: none"> ▪ Research Paper ▪ Class Discussion

TENTATIVE CLASS SCHEDULE AND ASSIGNMENTS:

- A. Introduction to Motors
- B. Single-Phase AC motors
- C. Three-phase AC motors
- D. Direct Current motors

* **First Exam**

- E. Testing motors, ohms
- F. Testing motors, megger
- G. Testing motors, power
- H. Testing motors, visual
- I. Motor nameplates

** **Second Exam**

- J. Introduction to Motor Control
- K. Reversing drum switch
- L. Manual controllers
- M. Magnetic controllers
- N. Overload protection

*** **Third Exam**

Final Examination

CLASS GUIDELINES AND OTHER REQUIREMENTS:

EVALUATION:

Test	60%
Assignments	20%
<u>Final Exam</u>	<u>20%</u>
Total	100%

Policies and Important Information

1. **Attendance Policy:** Regular attendance is considered essential to realize course objectives. Students are expected to attend all scheduled meetings of classes for which they register. The College has determined that excessive absence (absences which exceed 10% of the scheduled class meetings) is detrimental to academic success. No matter the basis for absence, students are held accountable for academic activities and faculty may require special work or tests to make up for missed class or classes.

If a student has absences exceeding 10% of scheduled class time, Students will be deducted 7 points from their final grade resulting in a drop in letter grade for the course. (10% for this course is 4 class periods.)

If a student accrues absences exceeding 20% will receive an F as a letter grade for the class. It is advisable that the student voluntary drop his/her self due to absenteeism and receive a W than fail the class. (20% for this course is 8 class periods).

ALL Students will be notified by e-mail and told verbally if they have reached the 20% absence point.
(Please see the Appeals process in the College Catalog under Academic Policies)

2. **Grading Scale:** The RCC grading scale: **93-100 (A), 85-92 (B), 78-84 (C), 70-77 (D), below 70 (F)**. Students in health related curricula must obtain a minimum grade of C in each major course in order to progress to the next semester. All students must obtain a grade of C in core curriculum courses in order to graduate.

3. **Withdrawal:** If you are going to drop one or more classes, you should follow the school's procedure. See a counselor or your instructor and obtain a drop form. This form should be signed by your instructor and returned to Student Development. You may also withdraw over the telephone by calling Student Development.

Students who withdraw after the 75% point of the semester will receive a grade of WU, which will negatively impact the student's GPA.

4. **Withdrawal and Financial Aid:** A new Federal Return of Title IV Funds policy took effect August 1, 2000. This policy affects any student receiving federal financial aid (Pell, FSEOG, NCSIG) who withdraws from all classes. Under the new policy, every student who withdraws or is withdrawn by the instructor completely on or before the 60% point of the semester will be required to repay funds.
5. **Responsibility for Work:** The student is responsible for all material, assignments, and announcements in class. If you miss class, you should get class notes and assignments from another student or contact the instructor.
6. **Discipline Policy:** The school has a discipline policy which will be enforced. Under it, the college has the right to decline admission, to reprimand, to place on probation, to suspend, to expel, or to require the withdrawal of a student for just cause when it is deemed in the best interest of the college. A list of offenses is found in the College Catalog.
7. **Grievance Procedure:** If you have a complaint, try to work it out with the instructor. If this is not possible, talk to the department chair. If you can't work out the problem with the department chair, talk to the division chair for the department. If the issue still cannot be resolved, then talk to the Vice-President for Instruction.
8. **Other Notes:** It is against school policy for children to accompany adults to class. It is against school policy to have food or drinks in classrooms.
9. **Students with Special Needs:** Students who have special needs (visual, physical, hearing impairments/learning disabilities) may have accommodations made for these needs. However, in order to receive any accommodation, the student must register with **Ms. Sandra Richardson, Vice President for Student Development** and have the need verified as stated in school policy. No requested accommodation can be made until this process has been completed.
10. **Weather Delay:** If the College is on a two-hour delayed schedule, this class will **Follow the two-hour delay schedule unless canceled.** Note: If the College is on a 2-hour delayed schedule on any exam day, the exam schedule will be moved forward two hours for all exams during the day, with no exam time being shortened.
11. **Final Exam:** The final exam for this course is scheduled for **Last Day of Class.**

Note: If the college is closed during any of the exam days, the exam schedule will resume on the next day the college is open, completing the remaining exams.

12. Academic Freedom: Students' rights to express dissenting opinions from that held by the instructor are upheld. No student will be penalized for disagreeing with the instructor's opinion. However, students should know the difference between opinion and fact, as factual information is not subject to debate.

13. Internet Use in the Classroom: Connecting classrooms to the Internet and college computing resources opens immense possibilities for learning—but it also opens the risk of **losing student attention** to e-mail, instant messaging, web surfing, MP3 downloads, and even network hacking. Due to the increasing demands in technology and education, the internet is deemed necessary but should not be abused or accessed while in the classroom for these purposes. While in the classroom, Internet access is **prohibited while the instructor is lecturing** or when the class is involved in classroom exercises that do not include the internet. Internet activity will only be permitted when authorized by the instructor. There are **NO** exceptions to this classroom Policy.

14. Late Work:

Assignments submitted late will be assessed a penalty of **-5 points** per school day late. Monday-Friday is counted 1 day each (weekends are counted as one day). The late penalty policy does **NOT** apply to the final term project, simply because late final projects will **NOT** be accepted due to end-of-the-semester grading constraints.

15. Makeup Tests:

When students have missed a test, the student may be allowed to make up the test **ONLY** if the instructor permits. Otherwise **ALL** tests should be taken at the appropriated times.

16. Pagers, Cell Phones and Electronic Devices:

Pagers, beepers, Cellular/Mobile Telephones, Portable Radios, Hand Held Scanners, CD Players DVD Players, Tape Players or other entertainment or communication device will not be allowed in the Classrooms and Lab area. Only Noiseless Calculators are permitted. In the event that communication/Signaling devices are required for employment obligations, inform your instructor upon entering the classroom. Exceptions are for medically prescribed devices and/or

ADA devices for accommodation purposes. Registration with the VP of Student Development is required for such accommodations.

17. Classroom and Campus Security requirements: Student IDs: It is required that Student IDs be worn at **ALL** times while on Campus. All IDs must be clearly displayed on the front of an individual. Failure to display your Student ID on an ongoing basis will be Reported to the VP of Student Development and may result in disciplinary action.

Classroom Doors: The door will remain locked at all times while class is in session. (This is according to college policy.)

18. RCC's Dress Code: You are expected to dress appropriately for the classroom environment. Sagging pants, clothing/jewelry with drug related signs, low cut tops, see through garments, too-short shorts, short skirts, leggings worn alone, halter tops, short midriff tops are not acceptable. No hats or head gear are allowed in the classroom. No gang affiliation is to be displayed. The instructor will notify any student if he/she is inappropriately dressed. If a student is found in violation of the above dress code, the garment error will be immediately corrected and the student can remain in class; or the student will be sent home to correct the garment error; or failure to comply with garment error will result in the student being referred to the Discipline Committee.

19. TOBACCO-FREE CAMPUS: RCC is a Tobacco free campus. While parking lots will be considered tobacco free, this policy will not adhere to a person's tobacco use inside a personally owned vehicle.