



**AIRC-1030
COURSE SYLLABUS
Lab / Lecture
Summer Semester 2017**

Semester: Summer 2017
Course Title: AIRC-1030
Electrical Fundamentals
Credit Hours/ Minutes: 4 / 4500
Class Location: Room # 423
Class Meets: M/W 5:30 – 10:00
CRN: 60053

Instructor: Vince Scott
Office Hours: M/T/W/R 3:30 – 5:30 pm
Email Address: vscott@southeasterntech.edu
Phone: (912) 538-3156
Fax Number: (912) 538-3156
Tutoring Hours: as needed

REQUIRED TEXT: *Fundamentals of HVACR 2nd Edition by Carter Stanfield and David Skaves, Pearson Publisher ISBN: 0-13-285961*

REQUIRED SUPPLIES: MUST HAVE EVERY DAY IN CLASS: safety glasses, notebook for taking notes, 3 ring binder for hand-outs, and pen or pencil to use in class every day. A Digital Volt, Ohm meter with a clamp-on AMP meter.

NOTE: You must have textbook and notebook with pen or pencil with you each day for class !

Safety: Shop safety is of paramount importance. Unsafe practices of any kind will result in dismissal from class. Proper clothing must be worn at all times, no open toe shoes, and no baggy clothes. Baggy pants are unsafe to work in.

****Safety Glasses Must be Worn at All Times While Working in the lab****

HOMEWORK REQUIREMENTS: From the class text book listed, **READ and answer the QUESTIONS at the end of each Chapter.** Answer all Assessment questions in each unit; these listed in your respected book list will be due on or before **July 26, 2017**

COURSE DESCRIPTION: This course provides an introduction to fundamental electrical concepts and theories as applied to the air conditioning industry.

MAJOR COURSE COMPETENCIES:

1. Topics include AC and DC theory
2. Electric meters
3. Electrical diagrams
4. Distribution systems
5. Electrical panels
6. Voltage circuits
7. Code requirements
8. Safety.

PREREQUISITE(S): AIRC 1030 or Provisional Admission

GENERAL EDUCATION CORE COMPETENCIES: STC has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

All students pursuing a degree, a diploma, or a Technical Certificate of Credit with a General Education component will be required to pass the General Education Competency Exams prior to graduation.

STUDENT REQUIREMENTS: Students are expected to complete all tests and comprehensive problems by the due dates. A ten point penalty will be assessed for each day a comprehensive problem is late. There are no makeup tests. Tests are made available for several days; therefore, there are no makeup tests. Students who miss a test will be assigned a grade of zero. Students are responsible for policies and procedures included in the *STC E-Catalog*.

ATTENDANCE GUIDELINES: Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and also interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students that miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of F and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

Students will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws, stops attending, or receives an F in a course

SPECIFIC ABSENCES: Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

SPECIAL NEEDS: Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact Helen Thomas, 912-538-3126, hthomas@southeasterntech.edu, to coordinate reasonable accommodations.

PREGNANCY: Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with Helen Thomas, (912) 538-3126, hthomas@southeasterntech.edu.

WITHDRAWAL PROCEDURE: Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of 'F' being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must also speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

Remember - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

MAKEUP GUIDELINES (Tests, quizzes, homework, projects, etc...): If a student misses a test, a grade of zero will be assigned. Only students with extenuating circumstances (who contact the instructor on the day of the test regarding their absence) will be allowed to take a makeup test, which will replace the zero. Extenuating circumstances are determined at the instructor's discretion. Unless otherwise scheduled with the instructor, it is expected that the test will be taken the next day, scheduled outside of regular class time. Failure to follow this procedure will result in a grade of zero.

ACADEMIC DISHONESTY POLICY: The STC Academic Dishonesty Policy states *All forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline.* The policy can also be found in the *STC Catalog and Student Handbook.*

Procedure for Academic Misconduct

The procedure for dealing with academic misconduct and dishonesty is as follows:

--First Offense--

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

--Second Offense--

Student is given a grade of "WF" for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

--Third Offense--

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

STATEMENT OF NON-DISCRIMINATION: Southeastern Technical College does not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, disabled veteran, veteran of Vietnam Era or citizenship status, (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies:

ADA/Section 504 - Equity- Title IX (Students) - OCR Compliance Officer	Title VI - Title IX (Employees) - EEOC Officer
Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1 st Street, Vidalia Office 108 Phone: 912-538-3126 hthomas@southeasterntech.edu	Blythe Wilcox, Director of Human Resources Vidalia Campus 3001 East 1 st Street, Vidalia Office 138B Phone: 912-538-3147 bwilcox@southeasterntech.edu

ACCESS TO TECHNOLOGY: For information regarding Blackboard, the Information Delivery System (IDS), Student Owl Mail, and BannerWeb, please see the IT Department link on STC's website at <http://www.southeasterntech.edu>.

GRIEVANCE PROCEDURES: Grievance procedures can be found in the Catalog and Handbook located on STC's website.

Food and Drink: Food and beverages (other than water) are not allowed in classrooms/lab.

GRADING POLICY

Written Test-----
30%
Lab Test-----
15%
Work Ethics-----
5%
Lab Assignments-----
50%

100%

GRADING SCALE

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

TCSG GUARANTEE/WARRANTY STATEMENT:

The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.

**AIRC 1030 Electrical Fundamentals
 SUMMER SEMESTER 2017 LESSON PLAN**

Date	Units	Content	Assignments & Tests Due	Comp Area
May 17-18	Unit 3	**Safety** Theory	Discuss some of the safety concerns involved in working with electricity.	1 a, c
May 22-25	Unit 33	**AC AND DC THEORY** Terms Ohm's Law Electro magnetism	Define electrical terms such as conductor, insulator, voltage, resistance, amperage, and wattage. Discuss the difference between AC and DC current. Solve various problems with Ohm's Law. Discuss how electro magnets are used in electrical applications.	2 a, c
May 29 – June 1	Unit 34	**ELECTRIC METERS** Theory Types Application	Discuss basic principles of electric meters. Explain differences between voltmeter, ammeter, and ohmmeter. Test and measure voltage, current, and resistance.	3 a, c
June 5 -8	Unit 38	**ELECTRIC DIAGRAMS** Theory Electrical symbols	Discuss basic concepts of electrical circuits. Identify and select several loads to be used in electrical circuits. Correctly identify common electrical symbols.	4 a, c
June 12 - 15	Unit 38	Series circuits Parallel circuits Series-parallel circuits	Construct and operate simple series circuits. Construct and operate parallel circuits. Construct and operate series-parallel circuits.	4 a, c
June 19 - 22	Unit 35	**DISTRIBUTION SYSTEMS** Types	Discuss how electrical energy is distributed from the power plant to the home.	5 a, c

June 26 - 29	Unit 35	**ELECTRICAL PANELS** Types	Discuss panel requirements for HVAC equipment. Discuss types of panels used in homes and businesses. Properly size disconnect-panels for HVAC equipment.	6 a, c
July 3 - 6	HOLIDAY	HOLIDAY	HOLIDAY	HOLIDAY
July 10 - 13	Unit 35	**VOLTAGE CIRCUITS** Low voltage Line voltage	Discuss the advantages of using low-voltage circuits. Properly wire a low-voltage circuit. Properly size wiring circuits for HVAC equipment.	7 a, c
July 17 - 20	Unit 35	**CODE REQUIREMENTS** Theory Theory and application	Discuss the National Electrical Code. Wire a condensing unit per the N.E.C. Theory and application	1,2,3,4,5, 6,7,8 a, c
July 24 - 26	Unit 32,33,34, 35,38	Review for Finals FINALS	Review for Finals Final Exam	1,2,3,4,5, 6,7,8 a, c

****Competency Areas****

1. Safety
2. AC AND DC THEORY
3. ELECTRIC METERS
4. ELECTRIC DIAGRAMS
5. DISTRIBUTION SYSTEMS
6. ELECTRICAL PANELS
7. VOLTAGE CIRCUITS
8. CODE REQUIREMENTS

****General Core Educational Competencies**

- a) The ability to utilize standard written English.
- b) The ability to solve practical mathematical problems.
- c) The ability to read, analyze, and interpret information.