



**AIRC-1010  
COURSE SYLLABUS  
Lab / Lecture  
Summer Semester 2017**

Semester: Summer 2017  
Course Title: AIRC-1010  
Refrigeration Principles and Components  
Credit Hours/ Minutes: 4 / 4500  
Class Location: Room # 423  
Class Meets: M/T/W/R 1:00 – 3:30 pm.  
CRN: 60052

Instructor: Vince Scott  
Office Hours: 8:00-4:30 M-TR 6:00- 9:30 PM. M&W  
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 textbook by Stanfield & Skaves*

**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.

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

**COURSE DESCRIPTION:** AIRC 1010 Introduces the student to basic refrigeration system principles and practices, and the major component parts of the refrigeration system.

**MAJOR COURSE COMPETENCIES:** AIRC 1010 Introduces the student to basic refrigeration system principles and practices, and the major component parts of the refrigeration system.

**HOMEWORK REQUIREMENTS:** From the class text book listed, **READ and answer the QUESTIONS at the end of each Unite.** Answer all Assessment questions, these will include unites- 22, 23, 24, 25, 27, 28, 29 & 31

**PREREQUISITE(S):** AIRC 1010 or Provisional

**COURSE OUTLINE:**

Refrigeration Tools  
Piping Practices  
Service Valves  
Leak Testing  
Refrigerant Recovery, Recycling and Reclamation  
Evacuation  
Charging  
Safety

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

- The ability to utilize standard written English.
- The ability to solve practical mathematical problems.
- 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 found in the STC Catalog and Student Handbook.

**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](mailto: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](mailto: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 contacts 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 third 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:

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

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

**ACCESS TO TECHNOLOGY:** Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and Banner Web via the my STC portal or by clicking the Current Students link on the STC website at [www.southeasterntech.edu](http://www.southeasterntech.edu).

**Safety:** Shop safety is of paramount importance. Unsafe practices of any kind will result in dismissal from the lab or classroom.

**Safety glasses: Must be worn at all times while working in the lab.**

**GRADING POLICY**

**Written Test----- 20%**  
**Lab Test----- 30%**  
**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 1010 SUMMER SEMESTER 2017 LESSON PLAN				
Date	Chapter	Content	Assignments & Tests Due	Comp Area

May 17-18	Unit 22  Unit 23	<b>Refrigeration Safety</b> Procedures and applications  <b>Refrigeration Tools</b> Tubing and fittings	Identify and discuss potential hazards in working with copper tubing Identify and discuss safety concerns found in working with pipe and pipe fittings Discuss the potential hazards of working with gauges Identify and discuss the hazards of working with refrigerants Demonstrate safe procedures in recovering, recycling, and transferring refrigerants Discuss safety factors involved in evacuating refrigeration systems Identify different types of tubing used in the refrigeration industry Identify various fittings commonly used in the refrigeration industry Turn in homework for chapter's 22 & 23	1, 2 A,C
May 22-25	Unit 24  Unit 25	Fabrication and bending  Soldering	Observe annealing copper tubing demonstrations Bend copper tubing to specified dimensions Braze or silver solder lines or fittings, such as condensers, receivers, evaporators, tubing, or piping Flare copper tubing Measure and cut copper tubing Soft solder lines or fittings Turn in homework for chapter's 24 & 25	1, 2,3 A,C
May 29- June 1	Unit 24	<b>Piping Practices</b> Applications	Determine correct refrigerant line sizes for specific applications Identify various types of pipe used in the refrigeration industry Remove or install threaded fittings Measure and cut piping Remove or install piping or tubing to include water, refrigerant, and fuel lines	1,2,3 A,C
June 5-8	Unit 27	<b>Service Valves</b> Gauge types	Identify and discuss the various types of gauges Calibrate gauges Inspect gauges and/or lines Purge lines Install a manifold gauge Discuss the potential hazards of working with gauges	1, 2,3,4 A, C
June 12-15	Unit 29	<b>Leak Testing</b> Detection	Discuss the various types of leak detectors Locate refrigerant leaks using electronic leak detectors Locate refrigerant leaks using soap solutions Perform pressure tests	1,2,3,4, 5, A, C
June 19-22	Unit 28	<b>Refrigerant Recovery, Recycling, and Reclamation</b> Theory	Discuss stratospheric ozone depletion Discuss regulations relating to the discharge of ozone layer depleting substances Discuss refrigerant recovery, recycling, and reclamation procedures as means of reducing ozone layer depletion	1, 2, 3,4 5,6,7 a, c

		Equipment	Describe recovery and reclamation equipment use Demonstrate recovery and recycling procedures	
June 26-29	Unit 28	Theory and applications	List the proper procedures for evacuation refrigeration systems Identify and explain the equipment used in evacuating a refrigeration system Evacuate refrigeration or air conditioning systems	1, 2,3, 4 a, c
July 10-13	Unit 31	<b>Charging</b> Applications	Charge a refrigeration system Determine performance using a P-T chart Purge refrigeration or air conditioning system lines Discuss the purpose of desiccants	1, 2,3, 4,5 a, c
July 17-20	Unit 31	Theory and applications	Remove or install gauges Replace drier filters or cartridges	1, 2, 3, a, c
July 24-27	Units 22,23,24 25,27,28 29 & 31	<b>FINALS</b>	Homework Due Final Test	1,2,3,4, 5,6,7,8 A, C

**\* Competency Areas:**

1. **Safety**
2. **Refrigeration Tools**
3. **Piping Practices**
4. **Service Valves**
5. **Leak Testing**
6. **Refrigerant Recovery, Recycling, and Reclamation**
7. **Evacuation**
8. **Charging**

**\*\*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.