



AIRC 1070 Gas Heat
COURSE SYLLABUS
Spring Semester 2018

COURSE INFORMATION

Credit Hours/Minutes: 4/ 4500
Class Location: Room Number 423
Class Meets: Monday through Thursday, 9:00 am - 10:15 am
Course Reference Number (CRN): 40339

INSTRUCTOR CONTACT INFORMATION

Instructor Name: Vince Scott
Office Location: Room Number 426
Office Hours: Monday through Thursday, 3:30-5:30pm
Email Address: [Vince Scott vscott@southeasterntech.edu](mailto:Vince.Scott@southeasterntech.edu)
Phone: (912) 538-3146
Fax Number: (912) 538-3156
Tutoring Hours (if applicable): By Appointment Only

SOUTHEASTERN TECHNICAL COLLEGE'S (STC) CATALOG AND HANDBOOK

Students are responsible for all policies and procedures and all other information included in Southeastern Technical College's [Catalog and Handbook](http://www.southeasterntech.edu/student-affairs/catalog-handbook.php) (<http://www.southeasterntech.edu/student-affairs/catalog-handbook.php>).

REQUIRED TEXT

Fundamentals of Heating Ventilation Air-conditioning and Refrigeration (HVACR) 3rd Edition by Carter Stanfield and David Skaves, Pearson Publisher ISBN: 0-13-401616

REQUIRED SUPPLIES & SOFTWARE

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 ampere (AMP) meter. NOTE: You must have textbook and notebook with pen or pencil with you each day for class !

COURSE DESCRIPTION

This course introduces principles of combustion and service requirements for gas heating systems.

MAJOR COURSE COMPETENCIES

1. Servicing Procedures
2. Electrical Controls
3. Piping
4. Gas Valves
5. Venting

6. Code Requirements
7. Principles of Combustion
8. Safety

PREREQUISITE(S)

AIRC 1060 or Provisional Admission

COURSE OUTLINE

This course includes servicing procedures, electrical controls, piping, gas valves venting, code requirements, principles of combustion and safety.

GENERAL EDUCATION CORE COMPETENCIES

STC has identified the following general education core competencies that graduates will attain:

- 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.

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 Catalog and 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 who 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.

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 \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, to coordinate reasonable accommodations.

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.

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 \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126.

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" (Withdrawn) 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" (Failing 0-59) 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.

WORK ETHICS

The Technical College System of Georgia instructs and evaluates students on work ethics in all programs of study. Ten work ethics traits have been identified and defined as essential for student success: appearance, attendance, attitude, character, communication, cooperation, organizational skills, productivity, respect, and teamwork. Students will be required to take a work ethics exam as Marchked in the lesson plan. A grade of 70 or better is required to complete the work ethics requirements for this class.

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:

1. 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.

2. Second Offense

Student is given a grade of "WF" (Withdrawn Failing) 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.

3. 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

The Technical College System of Georgia and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, sex, religion, disability, age, political affiliation or belief, genetic information, disabled veteran, veteran of the Vietnam Era, spouse of military member 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:

<p>American With Disabilities Act (ADA)/Section 504 - Equity- Title IX (Students) – Office of Civil Rights (OCR) Compliance Officer</p>	<p>Title VI - Title IX (Employees) – Equal Employment Opportunity Commission (EEOC) Officer</p>
<p>Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1st Street, Vidalia Office 108 Phone: 912-538-3126 Email: Helen Thomas hthomas@southeasterntech.edu</p>	<p>Blythe Wilcox, Director of Human Resources Vidalia Campus 3001 East 1st Street, Vidalia Office 138B Phone: 912-538-3147 Email: Blythe Wilcox bwilcox@southeasterntech.edu</p>

ACCESSIBILITY STATEMENT

Southeastern Technical College is committed to making course content accessible to individuals to comply with the requirements of Section 508 of the Rehabilitation Act of Americans with Disabilities Act (ADA). If you find a problem that prevents access, please contact the course instructor.

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 BannerWeb via the mySTC portal or by clicking the Current Students link on the [Southeastern Technical College \(STC\) Website \(www.southeasterntech.edu\)](http://www.southeasterntech.edu).

TECHNICAL COLLEGE SYSTEM OF GEORGIA (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.

GRADING POLICY

Assessment/Assignment	Percentage
Written Test	30 %
Lab Test	20 %
Lab Assignments	50%

GRADING SCALE

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

AIRC 1070 Gas Heat
Spring Semester 2018 Lesson Plans

Date/Week	Unit	Content	Assignments & Tests Due Dates	Competency Area
January 9-11	Chapter 3	Safety Gas heating systems	Review questions at end of chapter Safety Test	1,5,6,8 a, c
January 16-18	Chapter 48	Principles of Combustion Gas Heating Systems Theory	Review questions at end of chapter Discuss various safety concerns confronting the heating technician	1,5,6,7,8 a, c
January 22-25	Chapter 48	Gas Heating Systems Theory	Identify and discuss code requirements that apply to gas heating Discuss fuel-to-ratio for proper combustion	1,5,6,7,8 a, c
January - February 29-1	Chapter 48	Gas Heating Systems Theory	Discuss the dangers of products of combustion and how they can be hazardous	1,5,6,7,8 a, c
February 5-8	Chapter 49	Servicing Procedures	Review questions at end of chapter Discuss the inspection and cleaning of ducts and gas burner	1,3,5,6 a, c
February 12-15	Chapter 49	Servicing Procedures	Measure airflow or pressure with a manometer Measure airflow with an anemometer	1,3,5,6 a, c
February 19-22	Chapter 49	Servicing Procedures	Measure airflow with velocimeters	1,3,5,6 a, c
February- March 26-1	Chapter 50	Gas Furnace Controls Practical applications	Review questions at end of chapter Adjust safety controls	1,2,3,4,5 a, c

Date/Week	Unit	Content	Assignments & Tests Due Dates	Competency Area
March 5-6	Chapter 50	Practical applications	Analyze pressure or temperature readings Adjust and calibrate electrical thermostats or pressure switches Adjust electronic controls	1,2,3,4,5 a, c
March 12-15	Chapter 50	Practical applications	Isolate electrical control malfunctions Remove or replace automatic heating controls or thermostats Remove or replace heater manual controls Remove or replace humidistats	1,2,3,4,5 a, c
March 19-22	Chapter 51	Piping	Read pgs. 846-863 Review questions at end of chapter Discuss the proper pipe sizing according to available Properly connect gas lines to an existing natural gas furnace	1,3,4,5 a, c
March 26-29	Chapter 51	Venting	Work several test problems to properly size vents according to accepted standards Connect the proper size vent to a multiple-appliance arrangement	1,3,4,5 a, c
March 27-30		Troubleshooting Gas Furnaces	Remove or replace gas burners Discuss removal of asbestos on ductwork or pipes	1- 8, a, c

Date/Week	Unit	Content	Assignments & Tests Due Dates	Competency Area
April 2-5	Spring Break	Spring Break		
April 9-12	Chapters 52	Lab Work	Remove or replace burners in forced air heating systems Perform a gas burner operational check	1- 8, a, c
April 16-19	Chapters 52	Troubleshooting Gas Furnaces Review for Finals	Review for Finals	1-8, a, c
April 23-26	Chapter 48,50, 51,52	FINALS	Final Exam AIRC 1070	1-8, a, c

COMPETENCY AREAS:

1. Servicing Procedures
2. Electrical Controls
3. Piping
4. Gas Valves
5. Venting
6. Code Requirements
7. Principles of Combustion
8. Safety

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.