



**AUTT2020**  
**COURSE SYLLABUS**  
**Lecture/ Lab**  
**Spring Semester 2017**

Semester: Spring 2017  
Course Title: Automotive Manual Drive Train and Axles  
Course Number: AUTT2020  
Credit Hours/ Minutes: 4/5050  
Class Location: Room # SECCA/Automotive Lab  
Class Meets: MT 6:00PM-9:35PM  
CRN 40159

Instructor: James Harrell  
Office Hours: MTW 4:30PM-6:00PM Thurs-1:00PM-6:00PM  
Office Location: SECCA/ Auto Lab/ room AT-1  
Email Address: jharrell@southeasterntech.edu  
Phone: (912)538-3155  
Fax Number: (912) 538-3106

**REQUIRED TEXT: Automotive Technology; Principles, Diagnosis, and Service Fourth Edition by James D. Halderman, published by Pearson**



HALDERMAN **AUTOMOTIVE TECHNOLOGY - PRINCIPLES, DIAGNOSIS, AND SERVICE**

PEARSON

**REQUIRED SUPPLIES & SOFTWARE:** Required items include; Automotive Technology Book, Automotive Technology lab manual, Safety Glasses, 1” Binder notebook for lab sheets, and Approved Uniform, STC Automotive Technology Shirts. (Shirts can be purchased in the bookstore)  
Recommended, but not required; Nitrile Gloves, Mechanics Gloves.

**COURSE DESCRIPTION:** This course introduces basics of rear-wheel drive, front wheel drive, and four-wheel drive, drive line related electronic controls.

**MAJOR COURSE COMPETENCIES:** General drive train Diagnosis, Clutch Diagnosis and Repair, Manual transmission/Transaxle Diagnosis and Repair, Drive Shaft and Half Shaft, Universal and Constant-Velocity (CV) Joint Diagnosis and Repair, Drive Axle Diagnosis and Repair, Four-Wheel/All-Wheel Drive Component Diagnosis and Repair

**PRE-requisite(S):** none

**CO-requisites:** All Required

**COURSE OUTLINE:**

1. General Drivetrain
2. Clutch Diagnosis
3. Manual Transmission/Transaxle Diagnosis and Repair
4. Drive Shaft and Half Shaft, Universal and Constant-Velocity (CV) Joint Diagnosis and Repair
5. Drive Axle Diagnosis and Repair
6. Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair

**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:** Assignments must be completed on the specified date. All work must be turned in at the beginning of class on the specified due dates. If a student is absent from class, all work must be turned in at the beginning of class the next day upon returning to class. If this is not done, then a grade of zero will be given on the work. Failure to take tests on the scheduled day will result in a grade of zero for the test not taken. The makeup test must be taken the next day upon returning to class. The zero assigned for the missed test will be replaced with the grade the student makes on the makeup exam. **STUDENTS WILL ONLY BE ALLOWED TO TAKE ONE MAKEUP TEST DURING THE SEMESTER!!!!**

**EXIT EXAM:** Include a statement about the Exit Exam on the syllabus for the course that includes an exit exam.

**WORK ETHICS:** Wording for this will only appear in course syllabi that require the work ethics component. Additionally, the work ethics exam must count 5% of the course grade and be reflected in the Grading Policy at the bottom of the syllabus. 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 marked in the lesson plan. A grade of 70 or better is required to complete the work ethics requirements for this class.

**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 Jan Brantley, Room 1208 Swainsboro Campus, 478-289-2274, or Helen Thomas, Room 108 Vidalia Campus, 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 the Special Needs Office. Swainsboro Campus: Jan Brantley, Room 1208, (478) 289-2274 -- Vidalia Campus: Helen Thomas, Room 108, (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" 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...):** Statement will vary per program, course, or instructor. Information should be included pertaining to such items as tests, quizzes, homework, etc..... This should be consistent for instructors teaching in the same program/courses.

**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).

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

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

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**GRADING POLICY**

Exams	35%
Lab Activities	30%
Assignments	20%
Finals	15%
	100%

**GRADING SCALE**

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

**CSG 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.*

**AUTT 2020 – MANUAL DRIVE TRAIN AND AXLES  
SPRING SEMESTER 2016**

Date	Chapter / Lesson	Content	Assignments & Tests	*Comp. Area
<b>WEEK 1</b>				
<b>JAN 9</b>	<b>CH 121</b>	<b>CLUTCHES</b>	<ol style="list-style-type: none"> <li>1. Welcome &amp; explanation of course &amp; syllabus.</li> <li>2. Begin reading CH 121</li> <li>3. Power Point/Lecture</li> <li>4. Homework Assignment CH 121 Answer Review questions and take Chapter quiz.</li> <li>5. Begin Lab manual assignments 121</li> <li>6. Weekly test and/or quizzes given at instructor's discretion.</li> </ol>	<b>NATEF P1,P2, 2,a,b,c,d</b>
<b>WEEK 2</b>				

JAN 16	CH 121	CLUTHCES	<ol style="list-style-type: none"> <li>1. Continue reading CH 121</li> <li>2. Power Point/Lecture</li> <li>3. Continue Homework Assignment CH 121; Answer Review questions and take Chapter quiz.</li> <li>4. Continue Lab manual assignments CH 121</li> <li>5. Weekly test and/or quizzes given at instructor's discretion.</li> <li>6. <b>Home Work &amp; Lab Manual assignments CH 121 (DUE)</b></li> <li>7. <b>Test over CH 121</b></li> <li>8. <b>Begin Reading CH 122</b></li> </ol>	NATEF P1,P2, 2,a,b,c,d
<b>WEEK 3</b>				
JAN 23	CH 122	MANUAL TRANSMISSION/TRANSAXLE DIAGNOSIS AND REPAIR GENERAL DRIVETRAIN DIAGNOSIS	<ol style="list-style-type: none"> <li>1. Continue reading CH 122</li> <li>2. Power Point/Lecture</li> <li>3. Homework Assignment CH 122; Answer Review questions and take Chapter quiz.</li> <li>4. Begin Lab manual assignments CH 122</li> <li>5. Weekly test and/or quizzes given at instructor's discretion.</li> </ol>	NATEF P1,P2,P3, 1,3,a,b,c,d
<b>WEEK4</b>				
JAN 30	CH 122	MANUAL TRANSMISSION/TRANSAXLE DIAGNOSIS AND REPAIR GENERAL DRIVETRAIN DIAGNOSIS	<ol style="list-style-type: none"> <li>1. Continue reading CH 122</li> <li>2. Power Point/Lecture</li> <li>3. Continue Homework Assignment CH 122; Answer Review questions and take Chapter quiz.</li> <li>4. Continue Lab manual assignments CH 122</li> <li>5. Weekly test and/or quizzes given at instructor's discretion.</li> </ol>	NATEF P1,P2,P3, 1,3,a,b,c,d
<b>WEEK5</b>				
FEB 6	CH 122	MANUAL TRANSMISSION/TRANSAXLE DIAGNOSIS AND REPAIR GENERAL DRIVETRAIN DIAGNOSIS	<ol style="list-style-type: none"> <li>1. Continue reading CH 122</li> <li>2. Power Point/Lecture</li> <li>3. Continue Homework Assignment CH 122; Answer Review questions and take Chapter quiz.</li> <li>4. Continue Lab manual assignments CH 122</li> <li>5. Weekly test and/or quizzes given at instructor's discretion.</li> </ol>	NATEF P1,P2,P3, 1,3,a,b,c,d
<b>WEEK6</b>				
FEB 13	CH 122	MANUAL TRANSMISSION/TRANSAXLE DIAGNOSIS AND REPAIR GENERAL DRIVETRAIN DIAGNOSIS	<ol style="list-style-type: none"> <li>6. Continue reading CH 122</li> <li>7. Power Point/Lecture</li> <li>8. Continue Homework Assignment CH 122; Answer Review questions and take Chapter quiz.</li> <li>9. Continue Lab manual assignments CH 122</li> <li>1. Weekly test and/or quizzes given at instructor's discretion</li> <li>.<b>Homework &amp; Lab Assignments CH 122(DUE)</b></li> <li>2. <b>Test Over CH 122</b></li> <li>3. <b>Begin Reading CH's 123/124</b></li> </ol>	NATEF P1,P2,P3, 1,3,a,b,c,d
<b>WEEK 7</b>				

<b>FEB 20</b>	<b>CH 123/124</b>	<b>DRIVE SHAFT AND HALF SHAFT UNIVERSAL AND CV JOINT DIAGNOSIS AND REPAIR, and DIFFERENTIALS</b>	<ol style="list-style-type: none"> <li>1. Continue Reading CH's 123/124</li> <li>2. Power Point/Lecture</li> <li>3. Homework Assignment CH's 123/124. Answer Review questions and take Chapter quiz.</li> <li>4. Begin Lab Assignment 123/124</li> <li>5. Weekly Test and/or quizzes given at instructors discretion</li> </ol>	<b>NATEF P1,P2,P34 ,5, a,b,c,d</b>
<b>WEEK 8</b>				
<b>FEB 27</b>	<b>CH 123/124</b>	<b>DRIVE SHAFT AND HALF SHAFT UNIVERSAL AND CV JOINT DIAGNOSIS AND REPAIR, and DIFFERENTIALS</b>	<ol style="list-style-type: none"> <li>1. Continue Reading CH's 123/124</li> <li>2. Power Point/Lecture</li> <li>3. Continue Homework Assignment CH's 123/124. Answer Review questions and take Chapter quiz.</li> <li>4. Continue Lab Assignment 123/124</li> <li>5. Weekly Test and/or quizzes given at instructors discretion</li> </ol>	<b>NATEF P1,P2,P34 ,5, a,b,c,d</b>
<b>WEEK 9</b>				
<b>MAR 6</b>	<b>CH 123/124</b>	<b>DRIVE SHAFT AND HALF SHAFT UNIVERSAL AND CV JOINT DIAGNOSIS AND REPAIR, and DIFFERENTIALS</b>	<ol style="list-style-type: none"> <li>1. Continue Reading CH's 123/124</li> <li>2. Power Point/Lecture</li> <li>3. Continue Homework Assignment CH's 123/124. Answer Review questions and take Chapter quiz.</li> <li>4. Continue Lab Assignment 123/124</li> <li>5. Weekly Test and/or quizzes given at instructors discretion</li> </ol>	<b>NATEF P1,P2,P34 ,5, a,b,c,d</b>
<b>WEEK 10</b>				
<b>MAR 13</b>	<b>CH 123/124</b>	<b>DRIVE SHAFT AND HALF SHAFT UNIVERSAL AND CV JOINT DIAGNOSIS AND REPAIR, and DIFFERENTIALS</b>	<ol style="list-style-type: none"> <li>1. Continue Reading CH's 123/124</li> <li>2. Power Point/Lecture</li> <li>3. Continue Homework Assignment CH's 123/124. Answer Review questions and take Chapter quiz.</li> <li>4. Continue Lab Assignment 123/124</li> <li>5. Weekly Test and/or quizzes given at instructors discretion</li> </ol>	<b>NATEF P1,P2,P34 ,5, a,b,c,d</b>
<b>WEEK 11</b>				
<b>MAR 20</b>	<b>CH 123/124</b>	<b>DRIVE SHAFT AND HALF SHAFT UNIVERSAL AND CV JOINT DIAGNOSIS AND REPAIR, and DIFFERENTIALS</b>	<ol style="list-style-type: none"> <li>1. Continue Reading CH's 123/124</li> <li>2. Power Point/Lecture</li> <li>3. Continue Homework Assignment CH's 123/124. Answer Review questions and take Chapter quiz.</li> <li>4. Continue Lab Assignment 123/124</li> <li>5. Weekly Test and/or quizzes given at instructors discretion.</li> </ol>	<b>NATEF P-2, P- 2,1,2,3,4,5 ,6,a,b,c,d</b>
<b>WEEK 12</b>				
<b>MAR 27</b>	<b>CH 123/124</b>	<b>DRIVE SHAFT AND HALF SHAFT UNIVERSAL AND CV JOINT DIAGNOSIS AND REPAIR, and DIFFERENTIALS</b>	<ol style="list-style-type: none"> <li>1. Continue reading CH 1236/124</li> <li>2. Power Point/Lecture</li> <li>3. Continue Homework CH's 123/124. Answer Review questions and take Chapter quiz.</li> <li>4. Continue Lab Assignment CH's 123/124</li> </ol>	<b>NATEF P-2, 1,2,3,4,5,6 ,a,b,c,d</b>

			<ol style="list-style-type: none"> <li>5. Weekly Test and/or quizzes given at instructors discretion</li> <li>6. <b>CH's 123/124 Homework and Lab Assignment (DUE)</b></li> <li>7. <b>Test CH's 123/124</b></li> <li>8. <b>Begin Reading CH 126</b></li> </ol>	
<b>WEEK 13</b>				
<b>APR 3</b>	<b>CH 126</b>	<b>FOUR-WHEEL DRIVE/ ALL-WHEEL DRIVE COMPONENT DIAGNOSIS AND REPAIR</b>	<ol style="list-style-type: none"> <li>1. Continue reading CH 126</li> <li>2. Power Point/Lecture</li> <li>3. Homework CH 126. Answer Review questions and take Chapter quiz.</li> <li>4. Begin Lab Assignment CH 126</li> <li>5. Weekly Test and/or quizzes given at instructors discretion</li> </ol>	<b>NATEF P-1, P-2, 1,2,3,4,5,6 ,a,b,c,d</b>
<b>WEEK 14</b>				
<b>APR 10</b>	<b>CH 126</b>	<b>FOUR-WHEEL DRIVE/ ALL-WHEEL DRIVE COMPONENT DIAGNOSIS AND REPAIR</b>	<ol style="list-style-type: none"> <li>1. Continue reading CH 126</li> <li>2. Power Point/Lecture</li> <li>3. Homework CH 126. Answer Review questions and take Chapter quiz.</li> <li>4. Begin Lab Assignment CH 126.</li> <li>5. Weekly Test and/or quizzes given at instructors discretion</li> </ol>	<b>NATEF P-1, P-2, P-3 1,2,3,4,5,6 ,a,b,c,d</b>
<b>WEEK 15</b>				
<b>APR 17</b>	<b>CH 126</b>	<b>FOUR-WHEEL DRIVE/ ALL-WHEEL DRIVE COMPONENT DIAGNOSIS AND REPAIR</b>	<ol style="list-style-type: none"> <li>1. Continue reading CH 126</li> <li>2. Power Point/Lecture</li> <li>3. Continue Homework CH 126. Answer Review questions and take Chapter quiz.</li> <li>4. Continue Lab Assignment CH 126. Answer Review Questions and take Chapter Quizzes</li> <li>5. Weekly Test and/or quizzes given at instructors discretion</li> <li>6. <b>CH 126 Homework and Lab Assignments (DUE)</b></li> <li>7. <b>Test CH 126</b></li> </ol>	<b>NATEF P-1,P-2, P-3 1,2,3,4,5,6 ,a,b,c,d</b>
<b>WEEK16</b>				
<b>APR 24</b>		<b>FINALS</b>		<b>NATEF P-1,P-2, P-3 1,2,3,4,5,6 ,a,b,c,d</b>

***Lessons may be changed at instructor's discretion due to time constraints and other reasons beyond control.***

\* Competency Areas:

Automotive Manual Drive Train and Axles System Competency Areas:

1. General Drive Train Diagnosis
2. Clutch Diagnosis and Repair
3. Manual Transmission/Transaxle Diagnosis & Repair
4. Drive Axle Diagnosis and Repair
5. Drive Shaft and Half Shaft, Universal and Constant Velocity (CV) Joint Diag. and Repair
6. Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair

**General Core Competency Areas:**

- a. The ability to utilize standard written English.
- b. The ability to solve practical mathematical problems.
- c. The ability to read, analyzes, and interprets information.
- d. The ability to utilize basic computer skills.



