



Lake Technical College

**2019 - 2020**

**Master Plan of Instruction  
Automotive Service Technology 1 & 2**

**Evelio Lora & Mark McKinney, Instructors**



The mission of Lake Technical College is to be an integral component of the economic growth and development in our community by offering a variety of high quality career-training opportunities.

Lake Technical College does not discriminate on the basis of race, religion, color, national origin, gender, genetic information, age, pregnancy, disability, or marital status in its educational programs, services or activities, or in its hiring or employment practices. The district also provides access to its facilities to the Boy Scouts and other patriotic youth groups, as required by the Boy Scouts of America Equal Access Act, or any other youth group listed in Title 36 of the United States Code as a patriotic society.

2001 Kurt Street, Eustis, FL 32726 - (352) 589-2250

[www.laketechnology.org](http://www.laketechnology.org)

# LAKE TECHNICAL COLLEGE

## Automotive Service Technology 1 & 2

### INTRODUCTION

The Automotive Technology 1 & 2 programs are 1050 and 750 hour programs, respectively, responsible for training individuals to attain an entry-level status in the automotive industry. The programs cover a broad range of instruction that may be found in the program outline of this master plan. An appropriate amount of time is spent in each area to thoroughly cover needed instructional material as well as to gain manipulative skills.

The program utilizes both theory and practical application of material to help the students gain needed knowledge and skills. Due to the increasing complexity of systems on today's automobile, it is even more important to know why a procedure is done as well as how it is done. Understanding how a system functions, therefore, has an important role to play in this program of study.

Each student must successfully complete written test material on theory and related topics as well as successfully demonstrate the practical application of this information in the laboratory environment.

Prerequisites for this program should include a solid background in math and science in general with emphasis on basic math, formulas, percentiles, fraction and decimal conversion, and the use of precision measuring equipment, physics, chemistry and metallurgy. These areas are taught as part of the program of study, but it would be helpful to have these skills in advance.

Materials used are self-paced which allow students to progress at their own pace under the supervision of the faculty. Competencies in each area are completed after both written and performance testing.

### AUTOMOTIVE TECHNOLOGY MISSION

The mission of the Automotive Technology Program is to prepare students for employment in the automotive mechanic field. It is also designed to assist those students who wish to update present skills and cross-train in other automotive areas. The program focuses on student and industry needs. Training is constantly updated by the faculty and program advisory committee to keep current with technological changes.

### ADMISSION REQUIREMENTS

Applicants must be at least 16 years of age and should be academically, physically, and emotionally capable of meeting the demands of the chosen program. Applicants make initial application through the Admissions Office. A minimum skills evaluation is part of the admission process. It is highly recommended that students meet with the program Faculty prior to entering the program.

For the Automotive Service Technology 1 and 2 programs, the admission requirements include:

1. Complete an LTC online application
2. Take the basic skills examination, if required
3. Meet with a career advisor
4. Confer with the program faculty or department chairperson prior to actual enrollment

### TEST OF ADULT BASIC EDUCATION (TABE)

All applicants for Career and Technical Education (CTE) programs 450 hours or more, with the exception of Florida Law Enforcement Academy applicants, take a state mandated basic skills examination prior to enrollment. Scores are good for two years and must be valid at the time of enrollment.

Assessment instruments meeting this requirement include (must be within 2 years of enrollment to be considered valid):

- A **common placement test** where a minimum score has been achieved pursuant to Rule 6A-10.0315, F.A.C.;
- Tests of Adult Basic Education (**TABE**) 11 & 12; and,
- 2014 GED® Tests: **Reasoning through Language Arts** and/or **Mathematics Reasoning** where a minimum score (145) as required in Rule 6A-6A.6.021, Florida Administrative Code (F.A.C.) has been achieved.

Applicants transferring appropriately leveled TABE, GED test sections, or common placement tests must do so by having an official score report sent directly to the Admissions Office prior to enrollment in the program. Scores brought by hand will be accepted only if document provided by the outside testing center is in a sealed envelope. **Standardized tests**

## **scores are valid for two years.**

Several exemptions to TABE are accepted. In order to be exempt, a student must submit official documentation to a career advisor for verification of an exemption:

- Applicants who possess a **documented degree** in applied science (AAS) level or higher;
- Applicants who earned a **Florida standard high school diploma, 2007 or later** (see withdrawal codes for standard);
- Applicants who are serving as an **active duty member** of any branch of the United States Armed Services;
- Documented passing scores on **state-designated industry certification** tests may be used;
- Any student enrolled in an **apprenticeship program** that is registered with FDOE in accordance with Chapter 446.

If a student has met or exceeded standard scores on one area of one test, they may use another test to meet the additional skill area requirements. It is acceptable to combine test scores from more than one test. (Rule 6A-10.315, F.A.C.)

Required TABE exit scores may be waived for documented special needs students as per Florida guidelines. The student must enroll in AAAE and begin remediation in order to meet the exit requirements of the CTE program in which the student is enrolled. A student, with a documented disability, who is approaching completion (**mastered 90% of the competencies**) of the CTE program and has not met TABE scores, may be considered for a TABE exemption.

According to Florida Department of Education rules, students who fail all or parts of the TABE may only retest using a different TABE version after 60 documented hours of remediation in the Applied Academics for Adult Education (AAAE) lab or three months if not attending AAAE. Students may not retake the same test version for six months. We, therefore, strongly recommend that students test early, especially for licensure programs, in order to allow time for remediation and retesting should the need arise.

Students who do not meet the minimum TABE scores set by the Florida Department of Education for their program must begin attending remediation classes in the AAAE lab prior to or at the time of enrollment in a Career and Technical Education program for at least one block a day and make acceptable progress as determined by the AAAE faculty. It is highly recommended students meet state mandated TABE requirements by the time they have completed 50% of their program. Students who do not meet state mandated TABE scores may not receive a certificate of completion as per Florida Department of Education rules.

Applicants transferring appropriately leveled TABE, PERT or other accepted standardized test scores from other testing centers must do so by having an official score report sent directly to the Admissions Office prior to enrollment in the program. Scores brought by hand will be accepted only if document provided by the outside testing center is in a sealed envelope. Standardized tests scores are valid for two years

TABE scores are good for two years and must be valid at the time of enrollment. TABE scores that expire during continuous enrollment remain valid until the end of such enrollment. Under continuous enrollment, students must be enrolled at least 50% of each semester per school year. Continuous enrollment applies to attendance in a single program.

The required TABE exit scores for this program are: Reading 9; Math 10; and Language 9.

## **ESSENTIAL TRAINING TASKS**

### **Physical Requirements**

Ability to:

- |  |   |
|--|---|
| 1. Maintain a high degree of manual dexterity  | 10. Handle and finger supplies                        |
| 2. Stoop   | 11. Use depth perception                              |
| 3. Kneel   | 12. Work in an atmosphere of loud noise               |
| 4. Lift at least 50 pounds and walk with it  | 13. Work in an atmosphere of changes in temperature   |
| 5. Use voice, hearing, and sight effectively to perform jobs in the automotive field | 14. Perform repetitive tasks                          |
| 6. Crouch or bend  | 15. Measure accurately                                |
| 7. High degree of finger dexterity   | 16. Work without close, direct supervision            |
| 8. Crawl   | 17. Work on multiple tasks and priorities             |
| 9. Differentiate colors  | 18. Perform and complete tasks of relative complexity |

## **Mental and Emotional Requirements**

Ability to:

1. Handle confrontation and frustration and assist in problem resolution
2. Interpret a variety of instructions furnished in written, oral, and diagrammatic form
3. Work with others
4. Cope with high levels of stress
5. Perform mathematical computations at a level of tenth grade or higher
6. Make fast decisions under pressure
7. Cope with anger, fear, and hostility of others in a calm manner
8. Demonstrate a high degree of patience
9. Read and understand computer and related equipment
10. Work in close or crowded areas

## **ACCOMMODATIONS**

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's IEP or 504 plan or postsecondary student's accommodations plan to meet individual needs to ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their postsecondary provider.

Students desiring accommodations or updates to their accommodations are encouraged to self-identify as early in the program as possible. In order to receive disability accommodations, students must self-disclose the disability to the Students with Disabilities Coordinator and provide documentation that clearly shows evidence of a disability and applicable accommodations. The Students with Disabilities Coordinator will schedule a meeting with the student and faculty to discuss the documented disability and applicable accommodations.

Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments, assessments, time demands, schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodation requested and provided is maintained in a confidential file.

## **TUITION**

Tuition is charged for adult students at a rate established by the State legislature. Current fee information is available in the Admissions Office. Tuition is waived for eligible high school dual-enrolled students. Tuition is due prior to the first day of each semester based on the Lake Technical College payment calendar. Failure to pay all fees due at the time class begins will result in not being able to attend class and/or clinical if applicable.

## **CLASS SCHEDULE**

Full-time students attend class from 8:00 AM to 4:00 PM Monday through Thursday with a 30 minute lunch period. This schedule provides 7.5 hours of instruction each day for a total of 30 hours per four-day week, excluding holidays and school breaks as outlined in the current school calendar.

## **ATTENDANCE POLICY**

In an effort to develop appropriate work ethics, Lake Tech students are expected to attend all class sessions. As is expected in the workplace, when it is necessary to be absent due to illness or emergency situations, all students are to notify the faculty on or before the date of absence. The student attendance policy for each postsecondary program is consistent with industry standards.

Campus attendance is kept via a computerized system. It is the responsibility of the student to log in and out in order to receive credit for class time. This allows the school to keep accurate attendance records for the actual number of hours and minutes attended. Faculty are not expected to manually enter student attendance. Only one override is permitted for failure to log in or out. Therefore, failure of a student to log in and out may result in a documented absence. Logging in or out for another student or having another student log in or out is unacceptable behavior and may result in dismissal.

Only regularly scheduled class hours will be reported for attendance. Practice exercises completed at home does not count toward hours in the program. Make-up time will not be accepted except as approved by the Executive Director of Lake Technical College.

## **Absences**

A student who is absent for six (6) consecutive class sessions will be withdrawn from enrollment in his/her program. A

student withdrawn for absenteeism must petition administration to return. A student having medical documentation or documentation of an extenuating circumstance does not need to petition to return. Students exhibiting a pattern of consecutive absences less than six days will be subject to dismissal as determined by a School Intervention Team. Students with attendance issues will sign an acknowledgement that they have been notified that continued absences will pose a threat to grades and program enrollment. If the student's attendance does not improve but drops below 60%, the student will be withdrawn unless documentation regarding extenuating circumstances is provided to the Dean of Student Services.

Students in non-licensure programs must have achieved a minimum of 80% attendance at the end of each quarter. Students not having met this requirement will be formally notified that continued absences will pose a threat to grades and program enrollment. School Intervention Team meetings will be held as necessary to attempt to alleviate issues resulting in excessive absences and to counsel the student of possible alternatives and consequences. Students who miss more than 20% of their program will not be allowed to re-enroll the next semester and must wait until the following enrollment period to re-register unless the student's appeal to the Executive Director has been approved. Only regularly scheduled class hours will be reported for attendance.

### **Tardiness**

As in the workplace, students are expected to be in their seats promptly in the morning, after break, and after lunch. Students are expected to notify the faculty before the start of class of any anticipated tardies.

### **Leaving Campus During School Hours**

For safety reasons, students will notify their faculty when leaving campus early. Students may leave campus for lunch provided this is done within the allotted time.

## **PLAN OF INSTRUCTIONAL PRACTICES**

### **Teaching Methods**

Material used is self-paced and competency based. Students proceed at their own pace with written, audio-visual, and hands-on training. They are tested periodically with written and practical testing. Practical shop experiences are designed to enhance and reinforce the theories involved as well as to develop manipulative skill and good work and safety practices.

Teaching aids utilizing digital presentations, DVDs, etc., are used to a great extent throughout all instruction. Wall charts, specification charts, and other reference materials are on constant display throughout the classroom and laboratory.

A great deal of equipment must be utilized for "hands-on" skill requirements. Test equipment such as ignition scopes, brake equipment, compression gauges, electronic test equipment, and a chassis dynamometer are used so that the students will acquire rapport in working with such equipment and will have a basis for future troubleshooting requirements. Materials are reviewed and updated periodically to keep them as current and as relevant as possible.

Students are made responsible for all laboratory requirements such as maintaining tools, equipment, and facilities, writing repair orders, tool room management, and cleanup of shop areas.

### **Online Access**

Technology is an integral part of our daily lives. From smart phones to electronic tablets, these devices are becoming items that many cannot function without. In addition, the Internet is changing the way education is delivered. Lake Technical College strives to ensure that our students are able to compete in this technology driven world. With this in mind, it is recommended that students have an online presence and access to the internet.

It is also important that students have an email address that they check on a regular basis. A lot of information may come to you through your email, so it is important that you check it regularly. If you do not have an email address, there are numerous services that provide FREE email addresses. Please make sure your faculty have a current, working email address for you. See your faculty for more information.

### **Social Media**

The advent of social media has created a world-wide communication medium for persons of all ages. While extremely popular, these websites have also created their own set of "not-so-popular" problems such as cyber-stalking, identity theft, cyber-bullying, cyber-cheating (posting of exam, or other course material), and a host of other nebulous challenges that users may face. Another reality associated with social media is its far-reaching consequences for those who share posts that may be seen by others as inappropriate.

Potential employers, current employers, civic, or educational organizations you may be associated with, and many others are looking at social media sites for information that may tell them things about an individual. Students should also be

cautioned on how private their social media content really is – despite the settings on an account. All social media sites are potentially vulnerable. A simple search of how to view pages that are set as “private” for a popular social media website yielded numerous responses for ways to view the content. Everything from blogs to online videos offer to explain how to accomplish this task.

Students in all programs need to be cognizant of the fact that most professions rely on great moral character. It is recommended that when using social media, assume that all posts will be seen/read by everyone with access to the internet.

### **Safety**

A basic outline of safety standards and practices is covered along with a continuous implementation of safety principles.

### **Work Based Activities**

Work-based learning activities play an integral part of the curriculum of Lake Technical College's (LTC) career-technical training programs. These activities are planned with two objectives in mind. First, the activity provides students with the opportunity to develop and apply a “real world” experience using the knowledge and skills attained in the program. Second, the activity provides the faculty with objective input from potential employers or customers of program graduates. Each work-based activity has a written instructional plan outlining objectives, experiences, competencies and evaluation required during the activity.

Work-based activities are program specific and may include:

- Unpaid in-school shop/lab activities to provide customer service opportunities under the direct supervision of the program faculty.
- Unpaid job shadowing experiences that may include in-school or off-campus employer-based experiences under the supervision of a qualified employer representative who is working closely with the program faculty.
- Paid or unpaid cooperative training experiences conducted at the employer's work location under the supervision of a qualified employer representative and under the direction of the program faculty.

### **Cooperative Education**

Cooperative training is available for students and coordinated by the program faculty. Cooperative training is for students who have shown competence in program training, which indicates readiness for placement in an on-the-job program. Students must be enrolled in their last course of their program in order to participate in Co-op. In addition, basic skills exit levels must be met and the student can have no outstanding debt with the school. Students must be approved for Co-op prior to beginning, including clearance through financial aid.

Students who do not function satisfactorily on the job may be returned to the program for additional training, or when the cooperative agreement is terminated at the request of the student, the parent, the employer, or the program faculty.

Veterans will be accepted into the program in accordance with the Veterans Administration approved program.

Additional information regarding co-op opportunities may be obtained from the program faculty.

### **Job Shadowing**

Job shadowing experiences, or volunteer experiences, are available to students who may benefit from the experience. These experiences are designed to give the student actual hands-on experience doing a variety of automotive related tasks. Length and type of experiences will vary. The program faculty determines appropriateness of the experience. Additional information regarding job-shadowing experiences may be obtained from the program faculty.

### **Career dual Enrollment Students**

All students enrolled in Lake Technical College are expected to function as adults. High School students will be held to the same behavioral and performance standards as adult students.

## **GRADING PROCEDURE**

### **Grading Scale**

The grading policy for this program is as follows:

90-100	Excellent
80- 89	Passing
< 80	Failing

Lake Technical College is a postsecondary institution designed to provide trained individuals to industry. The grading scale for this program reflects industry standards. The approved postsecondary program grading requirements must be met if the student is to receive a certificate.

An average grade of 85% is required to earn an occupational completion point or a certificate of completion. Student grades are determined through the following percentages:

- |                        |                |
|------------------------|----------------|
| 1. Skills (hands-on)   | 33 1/3 percent |
| 2. Knowledge           | 33 1/3 percent |
| 3. Professional Skills | 33 1/3 percent |

### **Skills - Student Performance Objectives**

One-third of the grade is based on hands-on skills, as determined by the student performance objectives. Student performance objectives are based on criteria that have been identified for each of the competencies listed in the Florida Curriculum Frameworks and Student Performance Standards (attached). Students are given an overall rating for the competency. The ratings are as follows:

- 5 The student can perform this skill without supervision and with initiative and adaptability to problem situations.
- 4 The student can perform this skill satisfactorily without assistance or supervision.
- 3 The student can perform this skill satisfactorily but requires some assistance and/or supervision.
- 2 The student can perform parts of this skill satisfactorily, but requires considerable assistance and/or supervision.
- 1 The student cannot perform this skill even with constant supervision.

Students who score below a three (3) on the Performance Test will have the opportunity to repeat the learning activities, practice the preparation again and retake the Performance Test.

### **Knowledge**

One-third of the grade is based on written tests. The faculty will give knowledge tests at the completion of a chapter or assignment. The tests will be on the material covered. Students must achieve an 85% or better on each test. Students are given the opportunity to re-study and re-take the knowledge test if necessary.

### **Professional Skills**

One-third of the grade is based on the Professional Skills Assessment Form, which includes:

**Attendance:** Attends class for all scheduled hours assigned, arrives/leaves on time, contribute to class discussion and is actively involved in all activities.

**Character:** Displays academic integrity (inclusive of not committing plagiarism), trustworthiness, dependability, reliability, self-discipline, and self-responsibility.

**Teamwork:** Respects the rights of others; is a team worker; is cooperative; ensures confidentiality in all classroom, clinical and other matters; demonstrates professional behavior in interactions with peers, preceptors, and faculty.

**Appearance:** Displays appropriate dress, grooming, hygiene, and wears full regulation uniform of the day.

**Attitude:** Displays a willingness to cooperate and accept constructive criticism; sets realistic expectations; approaches assignments with interest and initiative.

**Productivity:** Follows safety practices; conserves materials and supplies; maintains equipment; stays on task and utilizes time constructively; demonstrates proactive learning through involvement in activities and contributions to class discussions.

**Organization:** Manifests skill in prioritizing and management of time and stress; demonstrates flexibility in handling change; completes assignments on time; uses work time appropriately.

**Communication:** Contacts faculty to report concerns; notifies faculty of tardy/absence one hour before start of class; seeks clarification and understanding through appropriate, pertinent questions.

**Leadership:** Displays leadership skills; appropriately handles conflict and concerns; demonstrates problem-solving capability; maintains appropriate relationships with supervisors/faculty and peers; follows the chain of command.

**Respect:** Deals appropriately with cultural/racial diversity; does not engage in harassment of any kind to include but not

limited to verbal, nonverbal, and written; addresses faculty and peers in appropriate tone and with appropriate language to include but not limited to electronic (email, text, etc.) communications.

### **Program Progress**

Students are expected to complete the program of training within the hours allotted by the State of Florida for completion. The student's rate of progress will be closely monitored by the faculty to ensure program completion in a timely manner. Most tests, projects, and similar assignments must be completed in class under the direction of the instructor. Practice exercises may be completed at home. Practice exercises completed at home does not count toward hours in the program.

### **Requirements for a Certificate**

All competencies specified in the State of Florida Curriculum Framework for the program must be successfully completed with at least an 80 percent in the areas of skills, knowledge, and professional skills. Students must also meet minimum TABE requirements prior to graduation.

Proficiency in the competency standards listed in the Master Plan of Instruction must be demonstrated.

## **STUDENT DRESS CODE**

Students who attend Lake Tech shall dress in a manner appropriate for the job in which they are receiving training, including any special protective gear and professional uniforms. All clothing, makeup, and jewelry must be clean, neat, modest, in good repair, appropriately sized, and be neither distracting nor offensive.

The Executive Director or designee has the final authority for determining whether or not a student's apparel conforms to the dress code. If it is determined that it does not, students will be required to change into clothing which will conform to this code or leave campus. Students may return to campus when they have changed into appropriate clothing.

### **Minimum Program Dress Code**

1. Pants shall be worn fastened and at the waist. Pants should be dark colored, straight legged or boot cut (jeans are acceptable). Baggy pants are not permitted in any program area. Baggy pants are considered to be more than one size larger than the individual's waist. Shorts are not permitted.
2. Shoes must meet safety/industry standards. Open toed shoes are not permitted
3. Program logo school T-shirts are to be worn.
4. For safety reasons, shorts, loose clothing, jewelry, and loose hair below the collar are not allowed.
5. Hats are only permitted in shop areas if required by the program master plan of instruction and must be worn appropriately (i.e., ball cap bills worn forward).

Remember: students at this College are preparing for employment in positions where public relations are often a major factor. Individual desires may not always take precedence.

## **GENERAL SCHOOL INFORMATION**

### **Campus Safety**

Lake Technical College makes every effort to provide a safe environment for all students, visitors, faculty and staff. Basic safety standards, which will include fire drills, weather drills, equipment usage, and traffic regulations, will be covered in the program orientation. These basic safety standards will be reinforced throughout the program enrollment. See the current school catalog for additional campus safety information.

### **Competency-based Instruction**

Any student who enters a LTC program with previous experience or educational background that would enable the student to successfully complete a test of competence in any area may, with the permission of the faculty, complete a test to measure that competence.

### **Follow Up**

Lake Technical College is proud of its graduates and celebrates the next step graduates take whether it is employment, military or further education. Prior to completing, students may visit the Career Success Center for assistance with employability skills such as resume writing. In addition, faculty may provide students with employment leads. However, it is up to the individual student to actively pursue employment opportunities. We like to hear how our graduates are doing and want to celebrate your successes so be sure to communicate with your faculty any employment, military, or further education you enter. Students are required to participate in an Exit Interview prior to their last day in their program.



**Food and Drink**

To protect equipment and furnishings in the classroom and laboratory areas, only water, in closed, covered containers, is permitted. No other food or drinks are allowed, unless specific permission is granted by the faculty. However, under no circumstance may food or drinks be in the laboratory areas.

**Leaving Campus during School Hours**

For safety reasons, students will notify their faculty when leaving campus early. Students may leave campus for lunch provided this is done within the allotted time.

**Lunch**

Food services are provided on the main campus by the Culinary Institute and are available during breaks and lunch. Adult students may leave the LTC campus during the scheduled 30-minute lunch break as long as they return to the program on time.

**Parking Regulations**

Students may park only in the south parking lot in spaces not designated as staff or customer service parking. For safety, loitering in or around vehicles once the vehicle is parked is not allowed and a 5 mph speed limit is enforced. In consideration of the neighbors and classes in session, loud music in vehicles on campus is prohibited.

**Smoking**

Lake Tech is a tobacco free institution. The use of tobacco products of any kind, including e-cigarettes, is not permitted at any Lake Tech location, including the parking lots.

**FINANCIAL AID**

Policies and guidelines for the administration of all financial aid are established according to federal and state law. Applicants complete an information form, Free Application for Federal Student Aid, and furnish documentation needed to verify eligibility. More information on the application process may be obtained in the Financial Aid Office.

The Financial Aid Office will assist students, where possible, with access to financial support offered by federal agencies (U.S. Department of Education – Pell Grants, Department of Veterans' Affairs), other state and local agencies and local organizations (scholarships).

**JOB DESCRIPTION**

An automotive service technician is required to diagnose problems and take correct steps to correct these problems. Technicians need to fill out work orders, talk to customers, order parts, and use test equipment.

**PROGRAM OBJECTIVES**

See the attached Florida State Department of Education Curriculum Framework for program objectives and desired competencies.

**Florida Department of Education  
Curriculum Framework**

**Program Title:** Automotive Service Technology 1  
**Program Type :** Career Preparatory  
**Career Cluster:** Transportation, Distribution and Logistics

<b>Career Certificate Program – Career Preparatory</b>	
Program Number	T400700
CIP Number	0647060411
Grade Level	30, 31
Standard Length	1050 hours
Teacher Certification	Refer to the <b>Program Structure</b> section
CTSO	SkillsUSA
SOC Codes (all applicable)	49-3023 – Automotive Service Technicians and Mechanics
CTE Program Resources	<a href="http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml">http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml</a>
Basic Skills Level	Mathematics: 10 Language: 9 Reading: 9

### Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Transportation, Distribution and Logistics career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Transportation, Distribution and Logistics career cluster.

The content includes but is not limited to broad, transferable skills and stresses understanding and demonstration of the following elements of the Automotive industry; planning, management, finance, technical and product skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

**Additional Information** relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

### Program Structure

This program is a planned sequence of instruction consisting of five occupational completion points.

**NOTE:** It is recommended that students complete **OCP-A (Automobile Services Assistor)** and/or demonstrate mastery of the outcomes in **OCP-A (Automobile Services Assistor)** prior to enrolling in additional Automotive Service Technology courses. **The sequence of OCP's, after completing and/or demonstrating mastery of OCP-A (Automobile Services Assistor), is at the discretion of the instructor.**

**For institutions using this framework, the National Automotive Technicians Education Foundation (NATEF) highly recommends the Master Automotive Service Technology (MAST) program Certification/Accreditation. Florida Statute (F.S.) 1004.925 – Automotive service technology education programs; certification. – requires all automotive service technology education programs shall be industry certified in accordance with rules adopted by the State Board of Education.**

Benchmarks identified with a designation of P-1, P-2, or P-3 are ASE tasks.

When offered at the postsecondary level, this program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44 (3) (b), F.S.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	AER0014	Automobile Services Assistor	AUTO IND @7 %7 %G AUTO MECH @7 7G	300 hours	49-3023
B	AER0418	Automotive Brake System Technician		150 hours	49-3023
C	AER0453	Automobile Suspension and Steering Technician		150 hours	49-3023
D	AER0360	Automotive Electrical/Electronic System Technician		300 hours	49-3023
E	AER0110	Engine Repair Technician		150 hours	49-3023

### **National Standards**

Industry or National Standards corresponding to the standards and/or benchmarks for the Automotive Service Technology program can be found using the following link:

<http://www.aseeducation.org/program-accreditation>

### **Common Career Technical Core** – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.
2. Apply appropriate academic and technical skills.
3. Attend to personal health and financial well-being.
4. Communicate clearly, effectively and with reason.
5. Consider the environmental, social and economic impacts of decisions.
6. Demonstrate creativity and innovation.
7. Employ valid and reliable research strategies.
8. Utilize critical thinking to make sense of problems and persevere in solving them.
9. Model integrity, ethical leadership and effective management.
10. Plan education and career path aligned to personal goals.
11. Use technology to enhance productivity.
12. Work productively in teams while using cultural/global competence.

### **Standards**

After successfully completing this program, the student will be able to perform the following:

- 01.0 Proficiently explain and apply required shop and personal safety tasks relating to the automotive industry.
- 02.0 Explain and apply required tasks associated with the proper use and handling of tools and equipment relating to the automotive industry.
- 03.0 Demonstrate proficiency in preparing vehicle for routine pre/post maintenance and customer services.
- 04.0 Explain and apply proficiently the diagnosis, service and repair of drum\disc brake, hydraulics, power assist units, electronic brakes, traction control, stability control systems and miscellaneous (wheel bearings, parking brake, electrical, etc.) systems.
- 05.0 Explain and apply proficiently the diagnosis, service and repair of front and rear suspensions systems, wheel alignment, and wheels and tires.
- 06.0 Explain and apply proficiently the diagnosis, service and repair of electrical/electronic system components, battery, starting, charging, lighting, gauges, warning devices, driver information, horn, wiper/washer and accessory systems.
- 07.0 Explain and apply proficiently the diagnosis, service and repair of engines, cylinder heads, valve train, engine block, lubrication and cooling systems.

**Florida Department of Education  
Curriculum Framework**

**Program Title:** Automotive Service Technology 2  
**Program Type:** Career Preparatory  
**Career Cluster:** Transportation, Distribution and Logistics

<b>Career Certificate Program – Career Preparatory</b>	
Program Number	T400800
CIP Number	0647060412
Grade Level	30, 31
Standard Length	750 hours
Teacher Certification	Refer to the <b>Program Structure</b> section
CTSO	SkillsUSA
SOC Codes (all applicable)	49-3023 – Automotive Service Technicians and Mechanics
CTE Program Resources	<a href="http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml">http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml</a>
Basic Skills Level	Mathematics: 10 Language: 9 Reading: 9

### **Purpose**

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Transportation, Distribution and Logistics career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Transportation, Distribution and Logistics career cluster.

The content includes but is not limited to broad, transferable skills and stresses understanding and demonstration of the following elements of the Automotive industry; planning, management, finance, technical and product skills, underlying principles of technology, labor issues, community issues and health, safety, and environmental issues.

**Additional Information** relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

### **Program Structure**

This program is a planned sequence of instruction consisting of four occupational completion points.

**NOTE:** It is recommended that students complete **OCP-A (Automobile Services Assistor) of Automotive Service Technology 1** and/or demonstrate mastery of the outcomes in **OCP-A (Automobile Services Assistor) of Automotive Service Technology 1** prior to enrolling in additional Automotive Service Technology courses. **The sequence of OCP's, after completing and/or demonstrating mastery of OCP-A (Automobile Services Assistor) of Automotive Service Technology 1, is at the discretion of the instructor.**

**For institutions using this framework, the National Automotive Technicians Education Foundation (NATEF) highly recommends the Master Automotive Service Technology (MAST) program Certification/Accreditation. Florida Statute (F.S.) 1004.925 – Automotive service technology education programs; certification. – requires all automotive service technology education programs shall be industry certified in accordance with rules adopted by the State Board of Education.**

Benchmarks identified with a designation of P-1, P-2, or P-3 are ASE tasks.

When offered at the postsecondary level, this program is comprised of courses which have been assigned course numbers in the SCNS (Statewide Course Numbering System) in accordance with Section 1007.24 (1), F.S. Career and Technical credit shall be awarded to the student on a transcript in accordance with Section 1001.44 (3) (b), F.S.

To teach the course(s) listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the postsecondary program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	AER0503	Automotive Engine Performance Technician	AUTO IND @7 %7 %G AUTO MECH @7 7G	300 hours	49-3023
B	AER0257	Automatic Transmission and Transaxle Technician		150 hours	49-3023
C	AER0274	Manual Drivetrain and Axle Technician		150 hours	49-3023
D	AER0172	Automotive Heating and Air Conditioning Technician		150 hours	49-3023

### **National Standards**

Industry or National Standards corresponding to the standards and/or benchmarks for the Automotive Service Technology program can be found using the following link:

<http://www.aseeducation.org/program-accreditation>

### **Common Career Technical Core** – Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.
2. Apply appropriate academic and technical skills.
3. Attend to personal health and financial well-being.
4. Communicate clearly, effectively and with reason.
5. Consider the environmental, social and economic impacts of decisions.
6. Demonstrate creativity and innovation.
7. Employ valid and reliable research strategies.
8. Utilize critical thinking to make sense of problems and persevere in solving them.
9. Model integrity, ethical leadership and effective management.
10. Plan education and career path aligned to personal goals.
11. Use technology to enhance productivity.
12. Work productively in teams while using cultural/global competence.

### **Standards**

After successfully completing this program, the student will be able to perform the following:

- 01.0 Explain and apply proficiently the diagnosis, service and repair of engines, ignition, fuel, air induction, exhaust, computer engine and emission control systems.
- 02.0 Explain and apply proficiently the diagnosis, service, repair and overhaul of automatic transmissions/transaxles.
- 03.0 Explain and apply proficiently the operation, assembly, diagnosis, service and repair of manual drivetrains, clutches, transmissions/transaxles, drive and half-shaft universals, constant velocity joints, rear axle differential assembly, limited slip, four-wheel drive and all-wheel drive.
- 04.0 Explain and apply proficiently the diagnosis, service and repair of heating and air conditioning, refrigeration, compressors, compressor clutches, evaporators, receiver driers, accumulators, condensers, heating and engine cooling, related control systems, refrigerant recovery, and recycling and handling.

I have received, read and understand all policies and procedures in the 2019-2020 Automotive Service Technology 1 & 2 Master Plan of Instruction and agree to abide by them.

Student Signature\_\_\_\_\_

Date\_\_\_\_\_