LAKETECH

Lake Technical College

2017 - 2018

Master Plan of Instruction
Diesel Systems Technician 1 & 2

Randy Yates, Instructor

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.

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

www.laketech.org

LAKE TECHNICAL COLLEGE
Diesel Systems Technician 1 & 2

INTRODUCTION

The Diesel Systems Technician 1 & 2 Programs, 1050 and 750 hours respectively, train individuals to attain an entry-level position in the diesel mechanics industry. The program covers 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 diesel engines, 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 to 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 allows 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.

PROGRAM MISSION

The mission of the Diesel Systems Technician 1 & 2 programs are to prepare students for employment in the diesel mechanics 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.

The Diesel systems Technician 1 & 2 programs have the following minimum admissions requirements:

1. Complete an LTC online application
2. Take the TABE, if required
3. Meet with a career advisor
4. Confer with the program faculty 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 TABE prior to enrollment. TABE scores are good for two years and must be valid at the time of enrollment.

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:

1. Applicants who have earned a standard State of Florida high school diploma, 2007 or later, or possess a documented degree (AA, AS, AAS, BA or BS) may be exempt from TABE testing. (s.1004.91).
2. Applicants who have earned a State of Florida High School diploma via the GED® test no more than two years prior to the start of class.
3. Students taking any accepted standardized tests such as PERT or ACT may be exempt from the TABE provided the scores are at satisfactory levels and the test was taken within two years of enrollment in a Career and Technical Education program (6A-10315, 6A-10.040).

4. A student who has completed or who is exempt from the college-level communication and computation skills (CLAST) examination pursuant to s.1008.29 is also exempt from the TABE. Per s. 1008.29.
5. Documented successful completion of college-level remedial coursework may be used to meet TABE requirement.
6. Documented passing scores on state-designated industry certification tests may be used.

7. Mandated 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 based on the following. It is determined through a SIT meeting that the student has successfully mastered the competencies of the CTE program in which she/he is enrolled and has been participating as expected in AAAE. The members of the SIT meeting may agree to waive TABE requirements.

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 class 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 9; and Language 9.

ESSENTIAL TRAINING TASKS

Physical Requirements

Ability to:

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

MATERIALS

1. Textbooks – CDX Online Diesel Program and textbooks
2. Safety equipment
3. Tool deposit
4. Lab Fee
5. Leather boots, do not have to be steel toe
6. Whiteout pen (2)
7. Black Sharpie (2)
8. Safety glasses
9. Black pens
10. Clipboard

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 8 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. Instructors 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. 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 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 slides, 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 precise measuring tools, brake equipment, compression gauges, and electronic test equipment 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 is coordinated by the program faculty. Cooperative training is for students who have who have completed at least 50% of the program competencies. High school students participating in the cooperative job placement program must be in at least the 12th grade.

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 coop 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 Enrolled 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 80% 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 80% 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. Effective Professional Skills are the cornerstone to successful employment. Students are expected to demonstrate productive Professional Skills during all phases of enrollment. Faculty will work with students who need assistance in this area to improve the overall possibility for successful employment.

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 leaning 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.

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.

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).

GENERAL SCHOOL INFORMATION

Campus Safety

Basic safety standards, which will include fire drills, weather drills, lockdowns, equipment usage, and traffic regulations, will be covered in the program orientation and within the program as applicable. These basic safety standards will be reinforced throughout the program enrollment. Students should immediately report any safety concerns to a faculty or administrator. Please refer to the school catalog for more 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. 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 LTC location, including the parking lots.

FINANCIAL SERVICES

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

A diesel service technician will be required to diagnose problems and take correct steps to fix these problems. Technicians will need to fill out work orders, talk to customers, order parts, and use test equipment.

The time allotted for each block of study varies with the needs of the area and the students and can be found in the program outline of this master plan.

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: Medium and Heavy Duty Truck and Bus Technician 1 / New Name 2017-2018, Diesel Systems Technician 1
Program Type: Career Preparatory
Career Cluster: Transportation, Distribution and Logistics

PSAV – Career Preparatory	
Program Number	T650100
CIP Number	0647061305
Grade Level	30, 31
Standard Length	1050 hours
Teacher Certification	Refer to the **Program Structure** section
CTSO	SkillsUSA
SOC Codes (all applicable)	49-3031 – Bus and Truck Mechanics and Diesel Engine Specialists
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml
Basic Skills Level	Mathematics: 9 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 maintaining and repairing diesel engines and electrical systems; reconditioning diesel fuel injection systems; overhauling diesel engines; and performing diesel engine preventive maintenance.

The course content should also include training in communication, leadership, human relations and employability skills; and safe efficient work practices.

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.
The courses after the core (OCP-A) may be taken in any sequence.
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 PSAV program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	DIM0101	Diesel Engine Mechanic/Technician Helper	DIESEL MECH @7 7G	150 hours	49-9098
B	DIM0102	Diesel Electrical and Electronics Technician		300 hours	49-3031
C	DIM0104	Diesel Engine Technician		300 hours	49-3031
D	DIM0105	Diesel Brakes Technician		300 hours	49-3031

National Standards

Industry or National Standards corresponding to the standards and/or benchmarks for the Medium and Heavy Duty Bus and Truck / Diesel Systems Technician program can be found using the following link:

http://www.natef.org/Achieving-Accreditation/Program-Standards.aspx

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.
02.0 Identify the basic diesel components and functions.
03.0 Explain and apply required tasks associated with the proper use and handling of tools and equipment.
04.0 Identify principles, assemblies, and systems of engine operation.
05.0 Demonstrate proficiency in preparing vehicle for routine pre/post maintenance and customer services.
06.0 Demonstrate workplace employability skills related to personal standards and work habits/ethics.
07.0 Diagnose and repair General electrical systems.
08.0 Diagnose and repair Battery systems.
09.0 Diagnose and repair Starting systems.
10.0 Diagnose and repair Charging systems.
11.0 Diagnose and repair Lighting systems.
12.0 Diagnose and repair Gauges and warning devices.
13.0 Diagnose and repair related electrical systems.
14.0 General engine diagnosis and repair.
15.0 Cylinder head and valve train diagnosis and repair.
16.0 Engine block diagnosis and repair.
17.0 Lubrication systems diagnosis and repair.
18.0 Cooling system diagnosis and repair.
19.0 Air induction and exhaust systems diagnosis and repair.
20.0 Fuel system diagnosis and repair.
  20.01 Fuel supply system.
  20.02 Electronic fuel management system.
21.0 Diagnose and repair engine brakes.
22.0 Diagnose and repair air supply and service systems.
23.0 Diagnose and repair mechanical/foundation air brake systems.
24.0 Diagnose and repair parking brakes.
25.0 Diagnose and repair hydraulic systems.
26.0 Diagnose and repair mechanical/foundation hydraulic brake systems.
27.0 Diagnose and repair power assist units.
28.0 Diagnose and repair air and hydraulic antilock brake systems (ABS) and automatic traction control (ATC).
  Diagnose and repair wheel bearings.

Florida Department of Education
Curriculum Framework

Program Title: Medium and Heavy Duty Truck and Bus Technician 2 / New Name 2017-2018, Diesel Systems Technician 2
Program Type: Career Preparatory
Career Cluster: Transportation, Distribution and Logistics

PSAV – Career Preparatory	
Program Number	T650200
CIP Number	0647061306
Grade Level	30, 31
Standard Length	750 hours
Teacher Certification	Refer to the **Program Structure** section
CTSO	SkillsUSA
SOC Codes (all applicable)	49-3031 – Bus and Truck Mechanics and Diesel Engine Specialists
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml
Basic Skills Level	Mathematics: 9 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 maintaining and repairing diesel engines and electrical systems; reconditioning diesel fuel injection systems; overhauling diesel engines; and performing diesel engine preventive maintenance.

The course content should also include training in communication, leadership, human relations and employability skills; and safe efficient work practices.

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.
The courses may be taken in any sequence. However, an individual must take the Diesel Engine Preventive Maintenance Technician course (DIM0103).
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 PSAV program structure:

OCP	Course Number	Course Title	Teacher Certification	Length	SOC Code
A	DIM0103	Diesel Engine Preventative Maintenance Technician	DIESEL MECH @7 7G	150 hours	49-3031
B	DIM0106	Diesel Heating and Air Conditioning Technician		150 hours	49-3031
C	DIM0107	Diesel Steering and Suspension Technician		150 hours	49-3031
D	DIM0108	Diesel Drivetrain Technician		150 hours	49-3031
E	DIM0109	Diesel Hydraulics Technician		150 hours	49-3031

National Standards

Industry or National Standards corresponding to the standards and/or benchmarks for the Medium and Heavy Duty Bus and Truck / Diesel Systems Technician program can be found using the following link:

http://www.natef.org/Achieving-Accreditation/Program-Standards.aspx

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	Inspect and service Engine Systems record findings as needed.
02.0	Diagnose and repair Fuel system
03.0	Diagnose and repair Air induction and exhaust system
04.0	Diagnose and repair Cooling system
05.0	Diagnose and repair Lubrication system
06.0	Diagnose and repair Instruments and controls
07.0	Diagnose and repair Safety equipment
08.0	Diagnose and repair Hardware
09.0	Diagnose and repair Heating, ventilation, and air conditioning (HVAC)
10.0	Diagnose and repair Battery and starting systems
11.0	Diagnose and repair Electrical/Electronic charging systems
12.0	Diagnose and repair Lighting systems.
13.0	Diagnose and repair Air brake systems.
14.0	Diagnose and repair Hydraulic brake systems.
15.0	Inspect, service and record Drive Train systems.
16.0	Diagnose and repair Suspension and steering systems.
17.0	Diagnose and repair Tires and wheels.
18.0	Diagnose and repair Frame and fifth wheel.
19.0	HVAC systems diagnosis, service, and repair.
20.0	A/C system and component diagnosis, service, and repair.
21.0	Diagnose and repair Compressor and clutch.
22.0	Diagnose and repair Evaporator, condenser, and related components.
23.0	Heating and engine cooling systems diagnosis, service, and repair.
24.0	Electrical system diagnosis, service, and repair.
25.0	Air/vacuum/mechanical diagnosis, service, and repair.
26.0	Refrigerant recovery, recycling, and handling.
27.0	Steering column diagnosis, service, and repair.
28.0	Steering units diagnosis, service, and repair.
29.0	Steering linkage diagnosis, service, and repair.
30.0	Suspension systems diagnosis and repair.
31.0	Wheel alignment diagnosis, adjustment, and repair.
32.0	Wheels and tires diagnosis, service, and repair.
33.0	Frame and coupling diagnosis, service, and repair.
34.0	Clutch diagnosis and repair.
35.0	Transmission diagnosis and repair.
36.0	Driveshaft and universal joint diagnosis and repair.
37.0	Drive axle diagnosis and repair.
38.0	General hydraulic system diagnosis and repair.
39.0	Diagnose and repair hydraulic pumps.
40.0	Diagnose and repair hydraulic filtration/reservoirs (tanks).
41.0	Diagnose and repair hydraulic hoses, fittings, and connections.
42.0	Diagnose and repair hydraulic control valves
43.0	Diagnose and repair hydraulic actuators

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I have received, read and understand all policies and procedures in the 2017-18 Diesel Systems Technician 1 & 2 Master Plan of Instruction and agree to abide by them.

Student Signature_____

Date_____