Program Information & Skill Alignment Chart for:
Diesel Equipment Technology – CIP Code 47.0613
Willow Street Campus

Form to be submitted to IU 13 with PIF

Program Description	• Class 8 Heavy truck repair and maintenance. • Operation of equipment used in industry to diagnose, repair and maintain a variety of equipment • Learn the basics of electrical and mechanical systems. • Learn and follow industry standards for safety
Program Information (costs, certification, uniform)	Textbooks- • Digital LMS Today's Class on school provided Chromebook • Goodheart – Wilcox Diesel Technology 10th edition with workbook Uniforms • Students need to purchase a minimum of two shirts and pants to comply with the hygiene standards. • Leather work boots are required Program Opportunities/Certifications- • OSHA Safety Certificate • Fork Lift Operators Certificate • Pennsylvania State Inspection Licenses • CAT 3 • Optional Cummins Factory Certification • Con Met factory Certification
Program Outline & Pathways	State Program of Study Task Outline The Diesel Equipment Technology program at LCCTC, Willow Street Campus, follows PDE's program of study. This Program of Study provides a combination of knowledge and hands-on skills. The skills are divided within the following main categories: • Safety Procedures • Tools and fasteners • Suspension and Steering systems • Preventative Maintenance • Brake Systems • Diesel Engines Repair & Diagnosis • Air Induction systems • Cooling System Repair and Diagnosis • Fuel System Repair and Diagnosis • Electrical System Repair and Diagnosis • Driveline Repair and Diagnosis To see the complete program of study, use the following link: Diesel Equipment Technology Program of Study
	Pathways • Heavy duty truck repair technician. • Parts Department • Service Writer • Warranty Administrator • Road Service Technician • Electrical Diagnosis Specialist Industry Partners • Bergey's Truck Center • Hunter Peterbilt • Lancaster Freightliner • Sunrise Transport • BR Kreider • Kennworth of Pennsylvania • Sauders Eggs

Other Information Include Articulation Agreements	Student/Teacher Ratio 25:1 <u>SOAR Articulations</u> SOAR is a Pennsylvania Department of Education (PDE) program which enables high school students who successfully complete a PDE approved career and technical program to earn college credits. The number of credits available varies by school, program and from one school year to another. Please discuss these options with your counselor.

Student Name: _____ District: _____

Skill Alignment Chart for:

Diesel Equipment Technology– CIP Code: 47.0613

Educational and Physical Attributes	Program Expectations	Present Education Level and Current Supports
Program Safety / Physical Considerations	• Ability to work independently • Able to lift and carry 70 pounds occasionally and up to 100 pounds rarely. • Able to work under pressure, in various conditions and within time constraints • Vision must allow detailed inspection of parts • Good conflict resolution skills & even temperament (not prone to aggressive behaviors) • Able to walk, crawl, bend, and stoop on uneven surfaces • Some situations will require working on a ladder or other methods placing student off the ground	
Action/Need:		
Program Environment *Indoor/outdoor* *Dust/dirt/fume/noise etc.* *Layout of room – theory/lab*	• 30% in classroom • 70% Lab • A portion of lab may be spent outside exposing students to heat, cold, rain, wind. • Dirt and fume exposure	
Action/Need:		
Typical level of support	At CTC, we have itinerant IU13 support teachers and paraeducators. In the itinerant	

	model, the support teachers have multiple programs and provide check-ins during the day. The itinerant model does not include co-taught classes where teachers are in classes for extended periods of time. IU13 paraeducators also support several teachers, spreading out their day between multiple programs. The learning center is available at scheduled times for testing accommodations, study/instructional groups, and work completion support. Since time there takes away from lab time, students are encouraged to use it strategically.	
Action/Need:		
Reading / ELA levels	• Technical Reading Skills required to read and comprehend Service manuals, Digital Learning Management System and online text. • Digital textbook is a 12.5 grade level	
Action/Need:		
Writing Levels	• Technical Writing Skills to complete work orders, customer billing and shift to shift work turnover logs. • Prepare clear concise customer estimates	
Action/Need:		
Math Levels Determine the PPM for a vehicle given the following information: Tire Diameter = 40.5 inches Axle ratio = 4.11 : 1 Impulse ring = 16 pulses per revolution 40.5 X 3.14 = 127.17 (tire circumference in inches)	• Frequent use of both fractional and decimal measurements • Proficiency in adding and subtracting fractional and decimal measurements • Use basic math skills to determine speed changes due to gear ratio changes, tire size engine speed etc. • Hydraulic and pneumatic systems diagnosis requires the determination of area, basic multiplication and addition	

127.17 ÷ 12 = 10.60 (tire circumference in feet) 5,280 (feet per mile) ÷ 10.60 = 498.11 (tire revolutions per mile) 498.11 X 4.11 (axle ratio) = 2,047.23 (driveshaft revolutions per mile) 2,047.23 X 16 (pulses per revolution of impulse ring) = 32,755.68 (round to nearest whole number) 32,756 This is the Pulses Per Mile (PPM) A worker has 6 gallons of a solution that is 50% water. If she adds one gallon of water, is the new percentage of water in the solution? 6 * 0.5 = 3 gallons of water in original solution 6 + 1 = 7 total gallons in new solution 3 + 1 = 4 known gallons of water in new solution 4 / 7 = 57% water in new solution	• Situational Math (work order, billing, payroll, budgetary, Taxes and life skills math) • Use of multiplication, division, addition and subtraction to determine concentration of liquid anti-freeze	
Action/Need:		
Theory time	• 30%	
Action/Need:		
Homework *Amount per night*	• None unless a student falls behind, length of time determined by the amount student is behind. • Some preparation for certification tests will need to occur outside of class	
Action/Need:		
Lab Time *Guided vs Independent Work*	• 40% guided • 60% independent	

Action/Need:		
Tests *NOCTI testing – Y/N* *Frequency of tests/quizzes*	• Written test/quizzes are used weekly to monitor student progress • Some certifications have specific requirements for testing • NOCTI written pre-test and written and hands on post-testing are required for this program	
Action/Need:		
Behavioral Expectations *Executive Function* *Organizational skills*	• Demonstrate initiative, responsibility, time management and critical thinking skills • Priority on consistent attendance • Good physical health • Neat and clean, well-groomed in appearance • Ability to mentally focus while exerting physical effort • Students of this program are held to a standard much like is expected of people employed in these lines of work. Because this class is held in a public building proper behavior and hygiene is expected. Any departure from that will be addressed with student.	
Action/Need:		
Other *Technology skills specific to the program*	• Attention to detail • Basic computer & keyboarding skills • Organization of material and time prioritization • Ability to navigate Canvas Learning Management System • Willingness to learn how to proficiently use a variety of electronic testing equipment	
Action/Need:		

*District Representative Signature*_____ *Date* _____