NICOLET COLLEGE

Field Service Technician

This program prepares students to work in the field service industry. Students learn how to diagnose, repair, and maintain mobile and industrial equipment. They will gain basic knowledge of hydraulics, electrical systems and mechanical components used in these industries. Students will also be introduced to welding repair, PLC's, reading schematics, HVAC systems, diesel engines and customer service. Upon completion of the certificate, students will possess the skills needed for entry-level positions in the field service technician field.

Program Outline

TERM 1

Course #	Course Title	Credits
472-303	Hydraulic Components and Schematics Students will learn how to operate the Basic Hydraulic Trainer and draw the schematic symbols in a circuit.	1.00
472-305	Fixed Displacement Pumps Students will learn about Pascal's law and the relationship between pressure, force and area.	1.00
472-307	Hydraulic Pressure Valves Students will identify different hydraulic valves and use them in an application.	1.00
472-315	Basic Electrical Circuits Students will learn how to measure voltage, current and resistance in an electrical circuit.	1.00
472-317	Inductance and Capacitance Students will learn how to define and calculate incuctance and capacitance in an electrical circuit.	1.00
472-319	Analyze Transformers Students will learn how to size a transformer and how to identify the step up and step down transformers.	1.00
472-309	Analyze Basic Pneumatic Trainer Students will learn how to operate the Basic Pneumatic Trainer.	1.00
472-312	Analyze Pressure Regulator and Actuator Students will understand how air compression will affect an actuator.	1.00
472-343	Mechanical Print Reading and Schematics Students will learn drawing symbols and understand how to interprete drawing dimensions.	1.00

Course #	Course Title	Credits
442-105	Welding Fundamentals	3.00
	Welding Fundamentals is designed to introduce students to basic techniques in a wide variety of welding and cutting processes. Learners will assess welds for quality as they make fillet and groove welds in all position on steel while experiencing a range of welding processes including Gas Metal Arc Welding, Shielded Metal Arc Welding, and Flux Core Arc Welding, as well as cutting processes such as OFC and PAC.	
472-350	Preventive Maintenance 1	1.00
	This course introduces students to both preventive and predictive maintenance concepts as they apply to machine and equipment maintenance. Students will learn terminology and definitions associated with preventative maintenance that you'll be using in the field service environment. Students will also be introduced to the development of skills related to assessing machine conditions and equipment breakdowns using correct troubleshooting and diagnostic procedures.	
472-355	Workshop Fundamentals 1	1.00
	This course introduces students to the layout, tools, and equipment found in a typical field service technician workshop. There will be an overview of the different types of tools and equipment, how they operate, and what they are used for in specific diagnostic and repair situations.	
804-101	Math Skills	1.00
	Develops skills in using mathematics principles, essential to the technical service and production workplace, through applied learning contexts. Content includes whole numbers, fractions, percent, graphs, and fundamentals of algebra.	

TERM 2

Course #	Course Title	Credits
472-382	PLC Troubleshooting Processes	1.00
	Students will learn how to troubleshoot a faulty PLC program.	
620-125	Investigate Troubleshooting Methods	1.00
	Students will learn about the types and methods of troubleshooting for 3 phase motor control systems.	
620-127	Troubleshooting Common Motor Circuits	1.00
	Students will examine the function and troubleshooting of reversing, automatic and timer controlled industrial motor control systems.	
404-317	Automotive HVAC Systems	1.00
	Student will perform general A/C diagnosis and repair. This is part of the Maintenance and Light Repair Certification ASE G1.	
404-358	HVAC Controls	1.00
	Student will perform diagnosis of HVAC control systems. This is part of the ASE A7 Certification.	
404-356	HVAC System Service	1.00
	Student will perform refrigerant recovery, recycling, and handling procedures. Student will perform A/C system component replacement and diagnosis. This is part of the ASE A7 Certification.	
472-360	Intro to Diesel Engines	1.00

Course #	Course Title	Credits
	This course offers an introduction to the operation, maintenance, and repair of diesel engines used in various applications like vehicles, heavy equipment, and industrial machinery. Students will learn about diesel engine components, operation cycles, and common maintenance practices, preparing them for basic troubleshooting and understanding environmental impacts.	
472-365	Workshop Fundamentals 2	1.00
	This course is a continuation of Workshop Fundamentals 1. Students will incorporate the tools and equipment needed to diagnose and repair heavy equipment or machinery. They will also use portable and stationary equipment to fabricate various types of metal parts used in the repair process.	
102-121	Customer Service	1.00
	This course is intended to teach students ways to take care of their customers and add value to customer interactions. They will identify the difference between internal and external customers, and develop verbal, nonverbal, and listening communication skills. Students will develop problem-solving techniques and the ability to lead and expand the customer service process, learn how to deal with customers, and build skills for analyzing and prioritizing customer needs. Students will learn to use the phone, email and other communications methods effectively and efficiently in the world of work.	
472-370	Field Service Internship	1.00
	Internships are off-campus experiential learning activities designed for students to earn academic credit by connecting the job experience with the concepts, theories, and ideas learned through their program. Internships are powerful resume builders, offer application of concepts, and expand employable skills.	
151-105	Digital Literacy with Cyber Security	1.00
	This course will cover identifying and differentiating between major computer components, Microsoft Windows operating system and application operations, computing environment issue troubleshooting, making connections between office network devices, file management, and basic cybersecurity threats and best practices.	
472-380	Design and PLC Program	1.00
	Students will learn about the main components of a PLC and how to write a program.	
472-385	Preventive Maintenance 2	1.00
	This course is a continuation of Preventive Maintenance 1. There will be an overview of common equipment problems including specific examples for wear and tear, improper use of equipment, improper or lack of maintenance. Students will also learn about the necessary details that are associated with troubleshooting and repairing equipment from tracking symptoms to diagnostics, to root causes, to verifying proper equipment operations post-repair.	

Total Credits: 28.00

Talk with a Success Coach about the program outline. Together, you will determine if credits you've already earned satisfy any requirements, discuss possible alternative courses, and choose the best classes if you're thinking of transferring.

At A Glance

How You'll Learn

Next Academic Start Dates

11
JAN

Spring 2027 Term Starts

15
MAR

Additional Spring 2027 Start for Select Courses

VIEW FULL CALENDAR

What You'll Learn

- Demonstrate safe work procedures.
- Troubleshoot electrical, mechanical, and HVAC systems.
- Repair electrical, mechanical, and HVAC systems.
- Maintain electrical, mechanical, and HVAC systems.
- Communicate technical information.

Program Tuition*

$4,509

Books & Supplies*

$1,350

*Total cost for degree completion is estimated by current course requirements, books, and supplies. Tuition and fees are set by the Wisconsin Technical College System and subject to change.

Financial Aid Eligible

Scholarships Available

A $500 scholarship will be awarded to the first ten qualifying students who enroll in the Field Service Technician program. No

application is required; students simply need to:

- Enroll in the Field Service Technician program
- Enroll in at least three credits
- Maintain a minimum 2.0 cumulative GPA

Your Potential Careers

Field Service Technician

Median Annual Salary

Local	State	National
$62,500	$68,200	$66,100

JobsEQ, 2024Q3

Get Started

Your application can be submitted online, it takes just a few minutes to complete.

APPLY NOW