



CATALOG ADDENDUM TO  
**Indianapolis Campus**  
 Official School Catalog  
**Volume XXXIII**

**EFFECTIVE MAY 18, 2022**

**REVISE the 4th paragraph in following policy on page 47:**

**Transfer Credits**

Transfer applicants must submit a transcript and applicable course description(s) from their former institution that clearly indicates the courses taken, grades achieved and credits awarded.

**EFFECTIVE JUNE 15, 2022**

**REPLACE the following program on page 10:**

**Automotive Technology**

AUTO108D–DIPLOMA PROGRAM

**REPLACE WITH**

**Automotive Service Technology**

AUXX100 – DIPLOMA PROGRAM

**REPLACE the following program on page 11:**

**Automotive Technology with Volkswagen Education Partnership**

AUTO108VW–DIPLOMA PROGRAM

**REPLACE WITH**

**Automotive Service Technology with Volkswagen**

AUXX100VW – DIPLOMA PROGRAM

**REPLACE the following program on page 14:**

**Diesel and Truck Technology**

DTT109D–DIPLOMA PROGRAM

**REPLACE WITH**

**Diesel and Truck Service Technology**

MHTX100 –DIPLOMA PROGRAM

**REPLACE the following program on page 15:**

## **Electrical and Electronic Systems Technology**

EEST410D–DIPLOMA PROGRAM

**REPLACE WITH**

## **Electrical and Electronic Systems Technology**

ESTX100 –DIPLOMA PROGRAM

**REPLACE the following program on page 18:**

## **Automotive Service Management**

AUTO210AAS–ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

**REPLACE WITH**

## **Automotive Service Management Technology**

AUXX100AS – ASSOCIATE IN APPLIED SCIENCE DEGREE PROGRAM

**REPLACE the following program on page 20:**

## **Diesel and Truck Service Management**

DTT210AAS– ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

**REPLACE WITH**

## **Diesel and Truck Service Management Technology**

MHTX100AS – ASSOCIATE IN APPLIED SCIENCE DEGREE PROGRAM

**REPLACE the following program on page 21:**

## **Electrical and Electronic Systems Technology Service Management**

EEST410A– ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

**REPLACE WITH**

## **Electrical and Electronic Systems Technology Service Management**

ESTX100AS – ASSOCIATE IN APPLIED SCIENCE DEGREE PROGRAM

***PROGRAM FACT SHEETS TO FOLLOW***

# Automotive Service Management Technology

## AUXX100AS—ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

### DAY/AFTERNOON/EVENING PROGRAMS

total instructional hours. . . . . 1545

total semester credits\* . . . . . 70

weeks to complete (day/aft/eve). . . approximately 83 (including holidays and scheduled breaks)

\*The listing of credits is not meant to imply that credits can be transferred into college or other private career school programs. Transfer credits are at the sole discretion of the receiving school.



Education Foundation

CIP CODE: 47.0604

SOC CODE: 49-3023

#### program objective

This degree is designed to provide the student with a comprehensive understand and hands-on application of industry standard automotive repair and service techniques. The program also provides information on the latest automotive repair tools, diagnostic and service equipment, and techniques as well as important safety, personal protection, and hazardous material handling strategies for students to use in protecting themselves and the environment. Graduates of this degree program will be presented with the entry-level knowledge and skills required to correctly test, diagnose, replace, repair and adjust as necessary the components of the mechanical, electronic, hydraulic, and accessories systems on current automobiles. Upon graduation, the student will be qualified for entry-level positions in the automotive service career field as a technician capable of analysis, problem solving, performing most common service operations and under supervision, more specialized or involved tasks with a dealer, independent shop or other service outlet. The general education component will provide the student

with the communication, business, and critical thinking skills necessary to pursue other employment opportunities within the industry. Students will be required to complete out-of-class assignments in each course.

In addition to the technical training, a critical aspect of a Lincoln education is developing the professional skills that are required by our employers. Students will need to demonstrate skill proficiency through a series of professional development activities and seminars which are integrated into each course. The modules include:

- Student Success
- Financial Literacy
- Professional Development
- Career Success

number	course	lecture hours	lab hours	internship hours	total hours	total credits	prerequisites
<b>FOUNDATION COURSES</b>							
AUX100	Workshop Practices and General Maintenance	60	60	0	120	5.0	
AUX113	Gasoline Engine Construction and Operation	60	60	0	120	5.0	
AUX103	Electrical Systems	60	60	0	120	5.0	
<b>FOUNDATION COURSE TOTAL</b>		<b>180</b>	<b>180</b>	<b>0</b>	<b>360</b>	<b>15.0</b>	
<b>CORE COURSES</b>							
AUX202*	Powertrain Electronics	60	60	0	120	5.0	AUX100, AUX103, AUX109
AUX206*	Transmissions and Drive Systems	60	60	0	120	5.0	AUX100
AUX208*	Air Conditioning and Electrical Accessories	60	60	0	120	5.0	AUX100, AUX103
AUX109*	Advanced Automotive Electronics & Diagnostics	60	60	0	120	5.0	AUX100, AUX103
AUX110*	Automotive Brake Systems	60	60	0	120	5.0	AUX100
AUX211*	Automotive Steering and Suspension Systems	60	60	0	120	5.0	AUX100
AUX124*	Service Shop Management	60	60	0	120	5.0	AUX100, AUX103, AUX208
AUX223*	Service Shop Operations	60	60	0	120	5.0	AUX100, AUX103, AUX109, AUX202, AUX208, AUX110, AUX211
<b>CORE COURSE TOTAL</b>		<b>480</b>	<b>480</b>	<b>0</b>	<b>960</b>	<b>40.0</b>	
<b>GENERAL EDUCATION COURSES</b>							
GEN190V	English Composition I	45	0	0	45	3.0	
GEN292V	Speech Communication	45	0	0	45	3.0	
GEN180V	College Algebra	45	0	0	45	3.0	
GEN130V	Introduction to Critical Thinking	45	0	0	45	3.0	
GEN150V	Environmental Science	45	0	0	45	3.0	
<b>GENERAL EDUCATION COURSE TOTAL</b>		<b>225</b>	<b>0</b>	<b>0</b>	<b>225</b>	<b>15.0</b>	
<b>TOTAL PROGRAM</b>		<b>885</b>	<b>660</b>	<b>0</b>	<b>1545</b>	<b>70.0</b>	

NOTE: Course numbers and sequences are listed here for reference only. The actual delivery sequence of courses contained in this program may vary depending on individual campus scheduling. Maximum Time Frame: 105.0 semester credits.

\*Prerequisite required.

Mode of Delivery: Residential, Blended Learning or Online are the methods we may use to deliver content in each course. The Residential courses are offered on ground at the campus. Blended courses are offered by delivering a fraction of the course in an online format as well as traditional face to face method. Online courses are delivered 100% online. The Blended delivery and online delivery plan will implement distance education activities into each course in the program of study. The use of simulations, case studies, assessments and multimedia will be used to enhance the students understanding of the learning objectives outlined in the course syllabus.



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LOANS AND GRANTS AVAILABLE TO THOSE WHO QUALIFY

**AUX100 – WORKSHOP PRACTICES AND GENERAL MAINTENANCE***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

The overall goal of this course is to facilitate a smooth transition to school by engaging the student in curriculum focusing on academic, career, and life skills. Students will make connections with key personnel within the school that will assist with their questions and provide guidance throughout their education.

The student will be introduced to automotive and diesel systems, industry certifications, and job opportunities. Students will learn essential skills for the vehicle technician including safety, tool and equipment fundamentals, and the proper use of measurement tools such as dial indicators, micrometers, and calipers.

The automotive and diesel content will be balanced by an emphasis on skills that will enable students to be successful in school and in life. These skills will include time management, financial management, goal setting, learning strategies, career planning, and critical thinking strategies.

*Prerequisite(s): None*

**AUX113 – GASOLINE ENGINE CONSTRUCTION AND OPERATION***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with a detailed study of the modern internal combustion gasoline engine from the basic principles of design and operation to inspection, precision measurement, fitting, and reconditioning, including cooling systems, coolants, lubricating systems, and engine lubricants.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose various engine concerns through visual and auditory inspection. Students will learn how to disassemble, measure, troubleshoot, service, and reassemble a gasoline powered internal combustion engine. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): None*

**AUX103 – ELECTRICAL SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with practical theory in basic and solid state circuitry, including body electrical systems, operation and service of automotive storage batteries, automobile charging systems, starting systems, and lighting systems. Students will evaluate components using both conventional and electronic diagnostic equipment.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose basic electrical, charging, starting, and lighting circuits through the use of diagnostic equipment to include test lights, multimeters, and continuity testers. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): None*

**AUX202\* – POWERTRAIN ELECTRONICS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with knowledge of conventional and computerized engine control systems and scientific engine testing and tuning. Students will receive detailed instruction on operating principles, testing, replacement and repair of the ignition systems, by-products of combustion, including fuel supply and air induction systems, related emissions controls, and the principles of turbocharging. Emphasis is placed on troubleshooting, replacement, overhaul, and adjustment of fuel injection systems, including computer control models.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to use diagnostic scan tools to retrieve emission control trouble codes and determine necessary repairs. Students will learn how to diagnose no-start/no-fuel problems on hot and cold engines. Students will learn how to operate exhaust gas analysis equipment and determine necessary action. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100, AUX103, AUX109*

**AUX206\* – TRANSMISSIONS AND DRIVE SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with a comprehensive coverage of drive train components, including theory, operating principles, service, and repair techniques of the clutch, differential and rear axles. Gearing, levers, hydraulics, component design, troubleshooting, replacement, disassembly, repair, service techniques, and assembly are emphasized. Manual and 4X4 transfer gear boxes, drive-shafts, U-joints, front and rear differentials, and manual transaxles are featured.

This course also provides the student with knowledge and skills needed to successfully diagnose and make needed repairs to automatic transmissions and transaxles. Emphasis is placed on power-flow, operation, design, servicing equipment, troubleshooting, disassembly, inspection, replacement, assembly, testing, and adjustment

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose, inspect, remove and replace a clutch. Students will learn how to diagnose, clean, inspect, disassemble, and reassemble a transmission/transaxle. Students will learn how to diagnose, inspect, remove, replace, and service front wheel-drive components and rear-wheel drive components. Students will learn how to perform necessary diagnostic tests using special equipment including scan tools to retrieve transmission/transaxle related trouble codes. Students will learn how to perform necessary service, repairs, and adjustments to automatic transmissions and transaxles. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100*

**AUX208\* – AIR CONDITIONING AND ELECTRICAL ACCESSORIES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with theory and application of automobile air conditioning and heating systems. Students will also be presented with the operation of various automobile accessories to include: power windows, door locks, and seats, and air bag operation and service.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose abnormal operation of air conditioning and heating systems, remove and replace air conditioning and heating system components, and evacuate and recharge automobile air conditioning systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100, AUX103*

**AUX109\* – ADVANCED AUTOMOTIVE ELECTRONICS & DIAGNOSTICS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with a more in-depth knowledge of electrical and electronic principles, and advanced circuit applications. Students will learn about automobile computerized control systems as they apply to engine and body control as well as transmission, suspension, braking systems, and other computerized systems. Computer operation, sensors, and actuators are emphasized.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose automotive electrical and electronic circuits using a variety of diagnostic equipment to include digital volt-ohm meters, continuity testers, test lights, graphing multimeters, and oscilloscopes. Students will learn how to use diagnostic scan tools to retrieve trouble codes from vehicle computers and determine necessary repairs. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100, AUX103*

**AUX110\* – AUTOMOTIVE BRAKE SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide comprehensive coverage of design, operating principles, maintenance and service of the automotive brake systems and traction control. Emphasis is placed on diagnosis and service of rotors and drums with measuring and resurfacing included. Anti-lock braking is covered from operating principles through diagnosis and service.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle

service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose mechanical and hydraulic problems within the vehicle braking systems. Students will learn how to diagnose computer control problems within the anti-lock and traction control systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100*

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### AUX211\* – AUTOMOTIVE STEERING AND SUSPENSION SYSTEMS

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with detailed instruction of the design and operating principles, maintenance and service of automobile suspension and steering systems including steering geometry and alignment angles. Emphasis is placed on wheel alignment procedures, including computerized four-wheel alignment. Service and diagnostics are stressed including McPherson struts, rack and pinion steering systems, and tire design and applications. New technologies are covered to incorporate electronic steering, and in-depth coverage of computerized suspension systems.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose, inspect, and service steering system components using industry standard equipment. Students will learn how to diagnose inspect, remove and replace rear-wheel and front-wheel drive suspension component. Students will learn how to perform alignments on front and rear wheel drive vehicles. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100*

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### AUX124\* – SERVICE SHOP MANAGEMENT

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the students with exposure to an actual shop environment, procedures, and protocol by applying prominent skills obtained in previous courses. This course will also provide the student with an orientation and introduction to the management and business component of the automotive industry. The management and procedures associated with automotive related businesses are emphasized including employee/employer expectations, the service write-up process, business organizational structure, career opportunities, customer relations, personnel management, facilities, business records, insurance, and safety. Knowledge relating to management practices within an automotive business will help the student adapt and acclimate to the working environment.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to prepare an employment resume and application. Students will learn how to complete various forms used in automotive businesses. Students will learn how to properly interview for employment. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100, AUX103, AUX208*

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### AUX223\* – SERVICE SHOP OPERATIONS

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the students with exposure to an actual shop environment, operational procedures, and protocol by applying prominent skills obtained in previous courses. Emphasis is placed on the performance and understanding of workshop tasks performed by entry-level technicians. Knowledge testing and skills application are highlighted among the topics.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

*Prerequisite(s): AUX100, AUX103, AUX109, AUX202, AUX208, AUX110, AUX211*

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### GEN130V – INTRODUCTION TO CRITICAL THINKING

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course presents students with techniques to develop their critical thinking skills. Topics include the six sequential steps of critical thinking, the importance of language, ambiguity, structure of arguments and creative problem solving. Upon successful completion of this course students should be able to demonstrate an improvement in their ability to apply critical thinking skills to real world situations.

*Prerequisite(s): None*

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### GEN180V – COLLEGE ALGEBRA

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course focuses on algebraic concepts essential for success in the workplace and other courses. Using real world examples and applications, students practice fundamental operations with number systems, formulas, algebraic expressions and liner equations. This course also explores problems involving factoring, inequalities, exponents, radicals, linear equations, functions, quadratic equations and graphs. Skills for success in mathematics will be emphasized.

*Prerequisite(s): None*

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### GEN190V – ENGLISH COMPOSITION I

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

Students develop written communication skills, with emphasis placed on the principles of effective communication which includes understanding the writing process, analysis of readings, as can be applied personally and professionally.

*Prerequisite(s): None*

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### GEN150V – ENVIRONMENTAL SCIENCE

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course is designed to provide students with a basic scientific overview of how nature works and how things in nature are interconnected. This course explores the study of the earth's natural resources. Topics include the study of how air, water, soil, natural energy, and the minerals are critical and related parts of the earth's interconnect systems.

*Prerequisite(s): None*

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### GEN292V – SPEECH COMMUNICATION

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course will enhance the student's understanding and appreciation of the uses of oral communication and will teach the skills needed to speak effectively in a variety of situations.

*Prerequisite(s): None*

# Automotive Service Technology



Education Foundation

## AUXX100—DIPLOMA PROGRAM

### DAY/AFTERNOON/EVENING PROGRAMS

total instructional hours. . . . . 1320

total semester credits\* . . . . . 55

weeks to complete (day/aft/eve). . . approximately 57 (including holidays and scheduled breaks)

\*The listing of credits is not meant to imply that credits can be transferred into college or other private career school programs. Transfer credits are at the sole discretion of the receiving school.

CIP CODE: 47.0604

SOC CODE: 49-3023

#### program objective

Provide the graduate with the entry-level knowledge and skills required to correctly test, diagnose, replace, repair and adjust as necessary the components of the mechanical, electronic, hydraulic, and accessories systems on current automobiles. Upon completion of this program, the graduates will be qualified for entry into the automotive service career field as a technician capable of analysis, problem solving, performing most common service operations and under supervision, more specialized or involved tasks with a dealer, independent shop or other service outlet. Students will be required to complete out-of-class assignments in each course.

In addition to the technical training, a critical aspect of a Lincoln education is developing the professional skills that are required by our employers. Students will need to demonstrate skill proficiency through a series of professional development activities and seminars which are integrated into each course. The modules include:

- Student Success
- Financial Literacy
- Professional Development
- Career Success

number	course	lecture hours	lab hours	internship hours	total hours	total credits	prerequisites
<b>FOUNDATION COURSES</b>							
AUX100	Workshop Practices and General Maintenance	60	60	0	120	5.0	
AUX113	Gasoline Engine Construction and Operation	60	60	0	120	5.0	
AUX103	Electrical Systems	60	60	0	120	5.0	
FOUNDATION COURSE TOTAL		180	180	0	360	15.0	
<b>CORE COURSES</b>							
AUX202*	Powertrain Electronics	60	60	0	120	5.0	AUX100, AUX103, AUX109
AUX206*	Transmissions and Drive Systems	60	60	0	120	5.0	AUX100
AUX208*	Air Conditioning and Electrical Accessories	60	60	0	120	5.0	AUX100, AUX103
AUX109*	Advanced Automotive Electronics & Diagnostics	60	60	0	120	5.0	AUX100, AUX103
AUX110*	Automotive Brake Systems	60	60	0	120	5.0	AUX100
AUX211*	Automotive Steering and Suspension Systems	60	60	0	120	5.0	AUX100
AUX124*	Service Shop Management	60	60	0	120	5.0	AUX100, AUX103, AUX208
AUX223*	Service Shop Operations	60	60	0	120	5.0	AUX100, AUX103, AUX109, AUX202 AUX208, AUX110, AUX211
CORE COURSE TOTAL		480	480	0	960	40.0	
TOTAL PROGRAM		660	660	0	1320	55.0	

NOTE: Course numbers and sequences are listed here for reference only. The actual delivery sequence of courses contained in this program may vary depending on individual campus scheduling. Maximum Time Frame: 82.5 semester credits.

\*Prerequisite required.

Mode of Delivery: Residential, Blended Learning or Online are the methods we may use to deliver content in each course. The Residential courses are offered on ground at the campus. Blended courses are offered by delivering a fraction of the course in an online format as well as traditional face to face method. Online courses are delivered 100% online. The Blended delivery and online delivery plan will implement distance education activities into each course in the program of study. The use of simulations, case studies, assessments and multimedia will be used to enhance the students understanding of the learning objectives outlined in the course syllabus.



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04 16060 R1022



**AUX100 – WORKSHOP PRACTICES AND GENERAL MAINTENANCE***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

The overall goal of this course is to facilitate a smooth transition to school by engaging the student in curriculum focusing on academic, career, and life skills. Students will make connections with key personnel within the school that will assist with their questions and provide guidance throughout their education.

The student will be introduced to automotive and diesel systems, industry certifications, and job opportunities. Students will learn essential skills for the vehicle technician including safety, tool and equipment fundamentals, and the proper use of measurement tools such as dial indicators, micrometers, and calipers.

The automotive and diesel content will be balanced by an emphasis on skills that will enable students to be successful in school and in life. These skills will include time management, financial management, goal setting, learning strategies, career planning, and critical thinking strategies.

*Prerequisite(s): None*

**AUX113 – GASOLINE ENGINE CONSTRUCTION AND OPERATION***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with a detailed study of the modern internal combustion gasoline engine from the basic principles of design and operation to inspection, precision measurement, fitting, and reconditioning, including cooling systems, coolants, lubricating systems, and engine lubricants.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose various engine concerns through visual and auditory inspection. Students will learn how to disassemble, measure, troubleshoot, service, and reassemble a gasoline powered internal combustion engine. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): None*

**AUX103 – ELECTRICAL SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with practical theory in basic and solid state circuitry, including body electrical systems, operation and service of automotive storage batteries, automobile charging systems, starting systems, and lighting systems. Students will evaluate components using both conventional and electronic diagnostic equipment.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose basic electrical, charging, starting, and lighting circuits through the use of diagnostic equipment to include test lights, multimeters, and continuity testers. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): None*

**AUX202\* – POWERTRAIN ELECTRONICS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with knowledge of conventional and computerized engine control systems and scientific engine testing and tuning. Students will receive detailed instruction on operating principles, testing, replacement and repair of the ignition systems, by-products of combustion, including fuel supply and air induction systems, related emissions controls, and the principles of turbocharging. Emphasis is placed on troubleshooting, replacement, overhaul, and adjustment of fuel injection systems, including computer control models.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to use diagnostic scan tools to retrieve emission control trouble codes and determine necessary repairs. Students will learn how to diagnose no-start/no-fuel problems on hot and cold engines. Students will learn how to operate exhaust gas analysis equipment and determine necessary action. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100, AUX103, AUX109*

**AUX206\* – TRANSMISSIONS AND DRIVE SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with a comprehensive coverage of drive train components, including theory, operating principles, service, and repair techniques of the clutch, differential and rear axles. Gearing, levers, hydraulics, component design, troubleshooting, replacement, disassembly, repair, service techniques, and assembly are emphasized. Manual and 4X4 transfer gear boxes, drive-shafts, U-joints, front and rear differentials, and manual transaxles are featured.

This course also provides the student with knowledge and skills needed to successfully diagnose and make needed repairs to automatic transmissions and transaxles. Emphasis is placed on power-flow, operation, design, servicing equipment, troubleshooting, disassembly, inspection, replacement, assembly, testing, and adjustment

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose, inspect, remove and replace a clutch. Students will learn how to diagnose, clean, inspect, disassemble, and reassemble a transmission/transaxle. Students will learn how to diagnose, inspect, remove, replace, and service front wheel-drive components and rear-wheel drive components. Students will learn how to perform necessary diagnostic tests using special equipment including scan tools to retrieve transmission/transaxle related trouble codes. Students will learn how to perform necessary service, repairs, and adjustments to automatic transmissions and transaxles. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100*

**AUX208\* – AIR CONDITIONING AND ELECTRICAL ACCESSORIES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with theory and application of automobile air conditioning and heating systems. Students will also be presented with the operation of various automobile accessories to include: power windows, door locks, and seats, and air bag operation and service.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose abnormal operation of air conditioning and heating systems, remove and replace air conditioning and heating system components, and evacuate and recharge automobile air conditioning systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100, AUX103*

**AUX109\* – ADVANCED AUTOMOTIVE ELECTRONICS & DIAGNOSTICS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with a more in-depth knowledge of electrical and electronic principles, and advanced circuit applications. Students will learn about automobile computerized control systems as they apply to engine and body control as well as transmission, suspension, braking systems, and other computerized systems. Computer operation, sensors, and actuators are emphasized.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose automotive electrical and electronic circuits using a variety of diagnostic equipment to include digital volt-ohm meters, continuity testers, test lights, graphing multimeters, and oscilloscopes. Students will learn how to use diagnostic scan tools to retrieve trouble codes from vehicle computers and determine necessary repairs. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100, AUX103*

**AUX110\* – AUTOMOTIVE BRAKE SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide comprehensive coverage of design, operating principles, maintenance and service of the automotive brake systems and traction control. Emphasis is placed on diagnosis and service of rotors and drums with measuring and resurfacing included. Anti-lock braking is covered from operating principles through diagnosis and service.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose mechanical and hydraulic problems within the vehicle braking systems. Students will learn how to diagnose computer control problems within the anti-lock and traction control systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100*

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### **AUX211\* – AUTOMOTIVE STEERING AND SUSPENSION SYSTEMS**

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with detailed instruction of the design and operating principles, maintenance and service of automobile suspension and steering systems including steering geometry and alignment angles. Emphasis is placed on wheel alignment procedures, including computerized four-wheel alignment. Service and diagnostics are stressed including McPherson struts, rack and pinion steering systems, and tire design and applications. New technologies are covered to incorporate electronic steering, and in-depth coverage of computerized suspension systems.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose, inspect, and service steering system components using industry standard equipment. Students will learn how to diagnose inspect, remove and replace rear-wheel and front-wheel drive suspension component. Students will learn how to perform alignments on front and rear wheel drive vehicles. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100*

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### **AUX124\* – SERVICE SHOP MANAGEMENT**

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the students with exposure to an actual shop environment, procedures, and protocol by applying prominent skills obtained in

previous courses. This course will also provide the student with an orientation and introduction to the management and business component of the automotive industry. The management and procedures associated with automotive related businesses are emphasized including employee/employer expectations, the service write-up process, business organizational structure, career opportunities, customer relations, personnel management, facilities, business records, insurance, and safety. Knowledge relating to management practices within an automotive business will help the student adapt and acclimate to the working environment.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to prepare an employment resume and application. Students will learn how to complete various forms used in automotive businesses. Students will learn how to properly interview for employment. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100, AUX103, AUX208*

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### **AUX223\* – SERVICE SHOP OPERATIONS**

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the students with exposure to an actual shop environment, operational procedures, and protocol by applying prominent skills obtained in previous courses. Emphasis is placed on the performance and understanding of workshop tasks performed by entry-level technicians. Knowledge testing and skills application are highlighted among the topics.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

*Prerequisite(s): AUX100, AUX103, AUX109, AUX202, AUX208, AUX110, AUX211*



# Automotive Service Technology With Volkswagen

## AUX100VW—DIPLOMA PROGRAM

### DAY/AFTERNOON/EVENING PROGRAMS

total semester credit hours\* . . . . . 65.0

total instructional hours . . . . . 1560

approximate weeks to complete—day/aft/eve . . 67 (includes holidays and scheduled breaks)



Education Foundation

\*The listing of credit hours is not meant to imply that credits can be transferred into college or other private career school programs. Transfer credits are at the sole discretion of the receiving school.

CIP CODE: 47.0604

SOC CODE: 49-3023

#### program objective

Provide the graduate with the entry-level knowledge and skills required to correctly test, diagnose, replace, repair and adjust as necessary the components of the mechanical, electronic, hydraulic, and accessories systems on current automobiles. Upon completion of this program, the graduates will be qualified for entry into the automotive service career field as a technician capable of analysis, problem solving, performing most common service operations and under supervision, more specialized or involved tasks with a dealer, independent shop or other service outlet. Students will be required to complete out-of-class assignments in each course.

In addition to the technical training, a critical aspect of a Lincoln education is developing the professional skills that are required by our employers. Students will need to demonstrate skill proficiency through a series of professional development activities and seminars which are integrated into each course. The modules include:

- Student Success
- Financial Literacy
- Professional Development
- Career Success

#### program requirements

Students enrolled in, or who choose to transfer to, the Automotive Service Technology with Volkswagen program must maintain a minimum cumulative GPA of 2.50 throughout the length of their training. Students must also maintain a 90% or better attendance record. Failure to maintain these standards may result in the student's inability to continue participating in

the program. Those students who are no longer eligible to participate in the Volkswagen program may be allowed to continue fulfilling the requirements necessary to graduate from the Automotive Technology certificate program. Students will be required to complete out-of-class assignments in each course.

number	course	lecture hours	lab/shop hours	internship hours	total hours	semester credits	prerequisites
<b>FOUNDATION COURSES</b>							
AUX100	Workshop Practices and General Maintenance	60	60	0	120	5.0	
AUX113	Gasoline Engine Construction and Operation	60	60	0	120	5.0	
AUX103	Electrical Systems	60	60	0	120	5.0	
FOUNDATION COURSE TOTAL		180	180	0	360	15.0	
<b>CORE COURSES</b>							
AUX202*	Powertrain Electronics	60	60	0	120	5.0	AUX100, AUX103, AUX109
AUX206*	Transmissions and Drive Systems	60	60	0	120	5.0	AUX100
AUX208*	Air Conditioning and Electrical Accessories	60	60	0	120	5.0	AUX100, AUX103
AUX109*	Advanced Automotive Electronics & Diagnostics	60	60	0	120	5.0	AUX100, AUX103
AUX110*	Automotive Brake Systems	60	60	0	120	5.0	AUX100
AUX211*	Automotive Steering and Suspension Systems	60	60	0	120	5.0	AUX100
AUX124*	Service Shop Management	60	60	0	120	5.0	AUX100, AUX103, AUX208
AUX223*	Service Shop Operations	60	60	0	120	5.0	AUX100, AUX103, AUX109, AUX202, AUX208, AUX110, AUX211
CORE COURSE TOTAL		480	480	0	960	40.0	
<b>CORE PLUS COURSES</b>							
VWM201*	Volkswagen Electrical Systems and Scan Tool Operation	60	60	0	120	5.0	AUX100, AUX103, AUX109, AUX202, AUX208, AUX110, AUX211
VWM202*	Volkswagen Advanced Systems Diagnostic	60	60	0	120	5.0	AUX100, AUX103, AUX109, AUX202, AUX208, AUX110, AUX211, VWM201
CORE PLUS TOTAL		120	120	0	240	10.0	
TOTAL PROGRAM		780	780	0	1560	65.0	

\*Prerequisite required.

Note: Course numbers and sequences are listed here for reference only. The actual delivery sequence of courses contained in this program may vary depending on individual campus scheduling. Maximum Time Frame (MTF) - 97.5

Mode of delivery: Residential, Blended Learning or Online are the methods we may use to deliver content in each course. The Residential courses are offered on ground at the campus. Blended courses are offered by delivering a fraction of the course in an online format as well as traditional face to face method. Online courses are delivered 100% online. The Blended delivery and online delivery plan will implement distance education activities into each course in the program of study. The use of simulations, case studies, assessments and multimedia will be used to enhance the students understanding of the learning objectives outlined in the course syllabus.



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## course descriptions

### AUX100 – WORKSHOP PRACTICES AND GENERAL MAINTENANCE

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

The overall goal of this course is to facilitate a smooth transition to school by engaging the student in curriculum focusing on academic, career, and life skills. Students will make connections with key personnel within the school that will assist with their questions and provide guidance throughout their education.

The student will be introduced to automotive and diesel systems, industry certifications, and job opportunities. Students will learn essential skills for the vehicle technician including safety, tool and equipment fundamentals, and the proper use of measurement tools such as dial indicators, micrometers, and calipers.

The automotive and diesel content will be balanced by an emphasis on skills that will enable students to be successful in school and in life. These skills will include time management, financial management, goal setting, learning strategies, career planning, and critical thinking strategies

*Prerequisite: None*

### AUX113 – GASOLINE ENGINE CONSTRUCTION AND OPERATION

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with a detailed study of the modern internal combustion gasoline engine from the basic principles of design and operation to inspection, precision measurement, fitting, and reconditioning, including cooling systems, coolants, lubricating systems, and engine lubricants.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose various engine concerns through visual and auditory inspection. Students will learn how to disassemble, measure, troubleshoot, service, and reassemble a gasoline powered internal combustion engine. Professional development exercises and seminars are also included in this course.

*Prerequisite: None*

### AUX103 – ELECTRICAL SYSTEMS

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with practical theory in basic and solid state circuitry, including body electrical systems, operation and service of automotive storage batteries, automobile charging systems, starting systems, and lighting systems. Students will evaluate components using both conventional and electronic diagnostic equipment.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose basic electrical, charging, starting, and lighting circuits through the use of diagnostic equipment to include test lights, multimeters, and continuity testers. Professional development exercises and seminars are also included in this course.

*Prerequisite: None*

### AUX202\* – POWERTRAIN ELECTRONICS

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with knowledge of conventional and computerized engine control systems and scientific engine testing and tuning. Students will receive detailed instruction on operating principles, testing, replacement and repair of the ignition systems, by-products of combustion, including fuel supply and air induction systems, related emissions controls, and the principles of turbocharging. Emphasis is placed on troubleshooting, replacement, overhaul, and adjustment of fuel injection systems, including computer control models.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to use diagnostic scan tools to retrieve emission control trouble codes and determine necessary repairs. Students will learn how to diagnose no-start/no-fuel problems on hot and cold engines. Students will learn how to operate exhaust gas analysis equipment and determine necessary action. Professional development exercises and seminars are also included in this course.

*Prerequisite: AUX100, AUX103, AUX109*

### AUX206\* – TRANSMISSIONS AND DRIVE SYSTEMS

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with a comprehensive coverage of drive train components, including theory, operating principles, service, and repair techniques of the clutch, differential and rear axles. Gearing, levers, hydraulics, component design, troubleshooting, replacement, disassembly, repair, service techniques, and assembly are emphasized. Manual and 4X4 transfer gear boxes, drive-shafts, U-joints, front and rear differentials, and manual transaxles are featured.

This course also provides the student with knowledge and skills needed to successfully diagnose and make needed repairs to automatic transmissions and transaxles. Emphasis is placed on power-flow,

## Automotive Service Technology With Volkswagen – AUXX100VW Diploma Program

operation, design, servicing equipment, troubleshooting, disassembly, inspection, replacement, assembly, testing, and adjustment

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose, inspect, remove and replace a clutch. Students will learn how to diagnose, clean, inspect, disassemble, and reassemble a transmission/transaxle. Students will learn how to diagnose, inspect, remove, replace, and service front wheel-drive components and rear-wheel drive components. Students will learn how to perform necessary diagnostic tests using special equipment including scan tools to retrieve transmission/transaxle related trouble codes. Students will learn how to perform necessary service, repairs, and adjustments to automatic transmissions and transaxles. Professional development exercises and seminars are also included in this course.

*Prerequisites: AUX100*

### AUX208\* – AIR CONDITIONING AND ELECTRICAL ACCESSORIES

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with theory and application of automobile air conditioning and heating systems. Students will also be presented with the operation of various automobile accessories to include: power windows, door locks, and seats, and air bag operation and service.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose abnormal operation of air conditioning and heating systems, remove and replace air conditioning and heating system components, and evacuate and recharge automobile air conditioning systems. Professional development exercises and seminars are also included in this course.

*Prerequisite: AUX100, AUX103*

### AUX109\* – ADVANCED AUTOMOTIVE ELECTRONICS & DIAGNOSTICS

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with a more in-depth knowledge of electrical and electronic principles, and advanced circuit applications. Students will learn about automobile computerized control systems as they apply to engine and body control as well as transmission, suspension, braking systems, and other computerized systems. Computer operation, sensors, and actuators are emphasized.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose automotive electrical and electronic circuits using a variety of diagnostic equipment to include digital volt-ohm meters, continuity testers, test lights, graphing multimeters, and oscilloscopes. Students will learn how to use diagnostic scan tools to retrieve trouble codes from vehicle computers and determine necessary repairs. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100, AUX103*

### AUX110\* – AUTOMOTIVE BRAKE SYSTEMS

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide comprehensive coverage of design, operating principles, maintenance and service of the automotive brake systems and traction control. Emphasis is placed on diagnosis and service of rotors and drums with measuring and resurfacing included. Anti-lock braking is covered from operating principles through diagnosis and service.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose mechanical and hydraulic problems within the vehicle braking systems. Students will learn how to diagnose computer control problems within the anti-lock and traction control systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100*

### AUX211\* – AUTOMOTIVE STEERING AND SUSPENSION SYSTEMS

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with detailed instruction of the design and operating principles, maintenance and service of automobile suspension and steering systems including steering geometry and alignment angles. Emphasis is placed on wheel alignment procedures, including computerized four-wheel alignment. Service and diagnostics are stressed including McPherson struts, rack and pinion steering systems, and tire design and applications. New technologies are covered to incorporate electronic steering, and in-depth coverage of computerized suspension systems.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose, inspect, and service steering system components using industry standard equipment. Students will

learn how to diagnose inspect, remove and replace rear-wheel and front-wheel drive suspension component. Students will learn how to perform alignments on front and rear wheel drive vehicles. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100*

### AUX124\* – SERVICE SHOP MANAGEMENT

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the students with exposure to an actual shop environment, procedures, and protocol by applying prominent skills obtained in previous courses. This course will also provide the student with an orientation and introduction to the management and business component of the automotive industry. The management and procedures associated with automotive related businesses are emphasized including employee/employer expectations, the service write-up process, business organizational structure, career opportunities, customer relations, personnel management, facilities, business records, insurance, and safety. Knowledge relating to management practices within an automotive business will help the student adapt and acclimate to the working environment.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to prepare an employment resume and application. Students will learn how to complete various forms used in automotive businesses. Students will learn how to properly interview for employment. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): AUX100, AUX103, AUX208*

### AUX223\* – SERVICE SHOP OPERATIONS

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the students with exposure to an actual shop environment, operational procedures, and protocol by applying prominent skills obtained in previous courses. Emphasis is placed on the performance and understanding of workshop tasks performed by entry-level technicians. Knowledge testing and skills application are highlighted among the topics.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

*Prerequisite(s): AUX100, AUX103, AUX109, AUX202, AUX208, AUX110, AUX211*

### VWM201\* – VOLKSWAGEN ELECTRICAL SYSTEMS AND SCAN TOOL OPERATION

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide an Introduction to Volkswagen products and systems; Students will become familiar with the Volkswagen vehicles and consumer features. Students will be able to operate and explain these features to the customer. Students will be able to conduct a Pre Delivery Inspection, identify concerns and make corrections prior to vehicle delivery. Students will understand and perform standard vehicle maintenance which includes general vehicle maintenance, proper tire mounting and balancing. Students will become familiar with Roadside Service procedures along with technician and customer safety. Students will be introduced to Volkswagen diagnostic tools and reference sources and be able to operate and access the same. Students will be able to understand and perform repairs to the vehicle electrical systems to include both networked and non-networked elements. Students will be able to understand and perform repairs to the battery, starting, and charging systems, parasitic draw and battery management. Students must register for and complete online course requirements in vehicle maintenance and light repair using the Volkswagen Certification Resource Center.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

*Prerequisite(s): AUX100, AUX103, AUX109, AUX202, AUX208, AUX110, AUX211*

### VWM202\* – VOLKSWAGEN ADVANCED SYSTEMS DIAGNOSTICS

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with more in-depth knowledge of electrical and electronic principles, and advanced circuit applications. Introduction to Volkswagen advanced diagnostic systems, troubleshooting, and occupant safety; Students will continue to use Volkswagen diagnostic tools and develop their skills in order to properly diagnose vehicle concerns and issues. Student will use Volkswagen specific scan tools for in-depth diagnostics and addressing customer vehicle concerns, along with identifying communication protocol. Students will understand vehicle coding, diagnostics, locating system faults, and making system repairs. Students must register for and complete online course requirements in vehicle maintenance and light repair using the Volkswagen Certification Resource Center.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

*Prerequisite(s): AUX100, AUX103, AUX109, AUX202, AUX208, AUX110, AUX211, VWM201*

# Diesel and Truck Service Management Technology

## MHTX100AS—ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

### DAY/AFTERNOON/EVENING PROGRAMS

total instructional hours. . . . . 1545

total semester credits\* . . . . . 70

weeks to complete (day/aft/eve). . . approximately 83 (including holidays and scheduled breaks)



Education Foundation

\*The listing of credits is not meant to imply that credits can be transferred into college or other private career school programs. Transfer credits are at the sole discretion of the receiving school.

CIP CODE: 47.0613

SOC CODE: 49-3031

#### program objective

An Associate Degree will be awarded upon completion of this program. The program is designed to prepare students for entry into the diesel and truck service career field. Students enrolled in this program will learn theory, functions, diagnostics, and repair of diesel and truck systems. Using industry standard tools and equipment, students will diagnose and repair electrical and mechanical systems on diesel engine and trucks. Upon successful completion of the program, the graduate should possess knowledge and versatility in the diesel and truck repair field to qualify for entry level positions in dealerships, fleet maintenance departments, private repair enterprises, or franchise truck repair organizations. The general education component will provide the student with the communication, business, and critical thinking skills necessary to pursue other employment opportunities within the industry.

In addition to the technical training, a critical aspect of a Lincoln education is developing the professional skills that are required by our employers. Students will need to demonstrate skill proficiency through a series of professional development activities and seminars which are integrated into each course. The modules include:

- Student Success
- Financial Literacy
- Professional Development
- Career Success

number	course	lecture hours	lab hours	internship hours	total hours	total credits	prerequisites
FOUNDATION COURSES							
MHT100	Shop Practices & Hydraulic Principles	60	60	0	120	5.0	
AUX103	Electrical Systems	60	60	0	120	5.0	
MHT101	Diesel Engines Construction and Operation	60	60	0	120	5.0	
FOUNDATION COURSE TOTAL		180	180	0	360	15.0	
CORE COURSES							
AUX208*	Air Conditioning and Electrical Accessories	60	60	0	120	5.0	MHT100, AUX103
MHT102*	Diesel Fuel Systems and Tune Up	60	60	0	120	5.0	MHT100, AUX103, MHT108
MHT103*	Heavy Duty Drive Trains	60	60	0	120	5.0	MHT100
MHT106*	Truck Steering and Suspension Systems	60	60	0	120	5.0	MHT100
MHT107*	Air and Hydraulic Brake Systems	60	60	0	120	5.0	MHT100
MHT108*	Truck Electrical and Electronics	60	60	0	120	5.0	MHT100, AUX103
AUX124*	Service Shop Management	60	60	0	120	5.0	MHT100, AUX103, AUX208
MHT223*	Preventative Maintenance & Welding	60	60	0	120	5.0	MHT100, AUX103, MHT106, MHT107
CORE COURSE TOTAL		480	480	0	960	40.0	
GENERAL EDUCATION COURSES							
GEN190V	English Composition I	45	0	0	45	3.0	
GEN292V	Speech Communication	45	0	0	45	3.0	
GEN180V	College Algebra	45	0	0	45	3.0	
GEN130V	Introduction to Critical Thinking	45	0	0	45	3.0	
GEN150V	Environmental Science	45	0	0	45	3.0	
GENERAL EDUCATION COURSE TOTAL		225	0	0	225	15.0	
TOTAL PROGRAM		885	660	0	1545	70.0	

NOTE: Course numbers and sequences are listed here for reference only. The actual delivery sequence of courses contained in this program may vary depending on individual campus scheduling. Maximum Time Frame: 105.0 semester credits.

\*Prerequisite required.

Mode of Delivery: Residential, Blended Learning or Online are the methods we may use to deliver content in each course. The Residential courses are offered on ground at the campus. Blended courses are offered by delivering a fraction of the course in an online format as well as traditional face to face method. Online courses are delivered 100% online. The Blended delivery and online delivery plan will implement distance education activities into each course in the program of study. The use of simulations, case studies, assessments and multimedia will be used to enhance the students understanding of the learning objectives outlined in the course syllabus.



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04 16060 R0522



**MHT100 – SHOP PRACTICES & HYDRAULIC PRINCIPLES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

The overall goal of this course is to facilitate a smooth transition to school by engaging the student in curriculum focusing on academics, career, and life skills. Students will make connections with key personnel within the school that will assist with their questions and provide guidance throughout their education.

The student will be introduced to medium and heavy duty truck systems, industry certifications, and job opportunities. Students will learn essential skills for the vehicle technician including safety and equipment fundamentals.

The student will also learn the basic operation of a hydraulic system. This includes giving a description of the operation and the diagnostic procedures for components in a hydraulic system. Students will study Pascal's Law and the Bernoulli's Principle of Hydraulics as they pertain to the repair industry. Lastly, the student will learn how to properly repair the basic hydraulic system in a hydraulic shop.

The course content will be balanced by an emphasis on skills that will enable the student to be successful in school and in life. These skills will include time management, financial management, goal setting, learning strategies, career planning, and critical thinking strategies.

*Prerequisite(s): None*

**AUX103 – ELECTRICAL SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with practical theory in basic and solid state circuitry, including body electrical systems, operation and service of automotive storage batteries, automobile charging systems, starting systems, and lighting systems. Students will evaluate components using both conventional and electronic diagnostic equipment.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose basic electrical, charging, starting, and lighting circuits through the use of diagnostic equipment to include test lights, multimeters, and continuity testers. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): None*

**MHT101 – DIESEL ENGINES CONSTRUCTION AND OPERATION***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills necessary to service medium and heavy duty diesel engines. Instruction on the operating principles, construction, design variations, and applications of the diesel engines are emphasized.

The student will learn how to perform a complete disassembly and assembly of the diesel engine, to include the cylinder head, block and timing gears, by using the instructions in the engine's manufacturers service manual. They will also learn the proper methods of inspecting, identifying and naming the components to determine serviceability of the components prior to making a repair. This will include learning how to make all the necessary precision measurements required for diagnosing component failure prior to servicing and repair of the engine.

The student will learn how to service, repair and diagnose the cooling and lubricating system of diesel engines. The student will learn the different types of coolants as well as additives and how to test for Supplemental Coolant Additives (SCA) to determine if additions to or replacement is needed. Students will learn how to perform coolant tests with different testing equipment.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): None*

**AUX208\* – AIR CONDITIONING AND ELECTRICAL ACCESSORIES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with theory and application of automobile air conditioning and heating systems. Students will also be presented with the operation of various automobile accessories to include: power windows, door locks, and seats, and air bag operation and service.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose abnormal operation of air conditioning and heating systems, remove and replace air conditioning and heating system components,

and evacuate and recharge automobile air conditioning systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100, AUX103*

**MHT102\* – DIESEL FUEL SYSTEMS AND TUNE UP***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills necessary to service fuel systems found on diesel powered truck tractors. The student will learn how to perform maintenance, service and repair on diesel fuel systems such as the Common Rail System, Detroit Diesel Electronic Controls (DDEC), different Cummins Systems, and International HEUI systems. The student will learn how to perform tune-ups on diesel engines by following manufacturer's service procedures and specifications.

The student will learn how to identify the different exhaust compounds from a diesel engine and define the ones that are classified as pollutants. The student will learn about the various manufacturers' exhaust aftertreatment systems. The student will learn how to perform an opacity smoke test and correlate the test results to engine performance and possible component failure.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100, AUX103, MHT108*

**MHT103\* – HEAVY DUTY DRIVE TRAINS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills necessary to service the drive trains found on diesel powered truck tractors. The student will learn how to identify the components of a heavy duty clutch system. Students will learn how to diagnose a clutch system for wear and damage and give the possible causes of specific clutch defects. The student will learn how to remove and replace a heavy duty truck clutch system.

The student will learn how to identify and describe the various gear designs and shift mechanisms used in heavy duty trucks. The student will also learn how to calculate both the gear pitch and gear ratios in a heavy duty drive line. The student will learn how to disassemble and reassemble a heavy duty transmission, differential and power divider as well as learning how to service the heavy duty drive line components in maintaining the correct lubricant and the level of lubricant in the system. The student will also learn how to perform basic diagnostic procedures on an automated standard transmission.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100*

**MHT106\* – TRUCK STEERING AND SUSPENSION SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills necessary to service heavy duty truck steering and suspension systems. The student will learn how to identify, diagnosis, service, repair, and adjust as necessary; the components of a heavy duty truck steering system to include toe-in, camber, caster, axle inclination, turning radius and axle alignment and how they affect tire wear, directional stability and handling. The student will learn how to balance truck tires and wheels and perform a wheel alignment to include the rear axle(s) by using computerized wheel alignment equipment

The student will learn how to service the major tire and wheel configurations used on heavy duty trucks. Students will learn how to perform bearing and seal service on both grease lubricated and oil lubricated front and rear hubs. The student will learn how to perform the basic checks for frame alignment and geometry and how the frame and chassis components are repaired. The student will learn how to service, repair and replace if necessary, the components on the four types of suspension systems.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100*

**MHT107\* – AIR AND HYDRAULIC BRAKE SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course has been designed to provide comprehensive information on air and hydraulic brake systems as they apply to medium heavy duty transport vehicles. The student will learn to identify, locate, and diagnose the components of the truck

brake systems, as it applies to hydraulic, air over hydraulic, or air brake systems. The student will learn to perform maintenance, service, and repair of brake system components on medium and heavy duty truck.

The student will learn to identify, locate, diagnose, service, and repair as necessary, components of ABS, EBS systems on a heavy duty truck and trailer. The student will learn to use LED lights and blink codes to assist them in diagnosing problems with the ABS, EBS systems. The student will learn how to perform maintenance, service, repair, and overhaul of disc and drum brakes as it applies to hydraulic, air over hydraulic, and air brake systems found on medium and heavy duty trucks.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100*

### **MHT108\* – TRUCK ELECTRICAL AND ELECTRONICS**

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the necessary skills and knowledge required to identify, service, and repair the different types of electrical and electronic circuits found on late model medium and heavy duty trucks. Operation, diagnosis, and service of the trucks computer systems will be emphasized.

The student will learn to apply Ohm's law to series, parallel and series-parallel circuits and how data is transmitted from the various engine, body, and electronic system sensors to onboard computers that control fuel management, driveability performance, and driver comfort systems.

The student will learn how to diagnose and service electrical and electronic systems using wiring diagrams, manufacturer service manuals, and specialized diagnostic equipment. The student will learn how to properly identify, disassemble, repair as necessary, and assemble connectors and wiring on medium and heavy duty trucks.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100, AUX103*

### **AUX124\* – SERVICE SHOP MANAGEMENT**

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the students with exposure to an actual shop environment, procedures, and protocol by applying prominent skills obtained in previous courses. This course will also provide the student with an orientation and introduction to the management and business component of the automotive industry. The management and procedures associated with automotive related businesses are emphasized including employee/employer expectations, the service write-up process, business organizational structure, career opportunities, customer relations, personnel management, facilities, business records, insurance, and safety. Knowledge relating to management practices within an automotive business will help the student adapt and acclimate to the working environment.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to prepare an employment resume and application. Students will learn how to complete various forms used in automotive businesses. Students will learn how to properly interview for employment. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100, AUX103, AUX208*

### **MHT223\* – PREVENTATIVE MAINTENANCE & WELDING**

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills necessary to perform service, maintenance, and PM Inspection on medium and heavy-duty trucks and trailers. The student will learn the proper procedures that must be taken to perform a PM Inspection including the completion of PM Inspection forms. The student will learn how a well-planned preventive maintenance program can reduce repair cost and increase the life of the truck, trailer, and other associated equipment.

The student will learn how to properly inspect, lubricate, and repair or replace as necessary; components of the truck drive line as well as checking for proper driveline angles and balance. The student will learn how to perform the proper service, maintenance, repairs and inspection procedures on the trailers lighting system, wheels,

tires, brakes and other safety related components as required by law. The student will learn how to disassemble, inspect, service, and reassemble, the fifth wheel. Students will learn how to properly perform the necessary service and maintenance procedures related to pintle hooks and drawbars.

The student will learn how to take the necessary safety precautions as they pertain to cutting, welding and hydraulics. They will learn how to weld with a MIG welder. The student will also learn how to use an oxyacetylene combination torch to cut metal.

Lastly, Students will be provided with an orientation and introduction to the management and business component of the medium/heavy duty truck industry. The management and procedures associated with diesel service related businesses are emphasized including employee/employer expectations, the service write-up process, business organizational structure, career opportunities, customer relations, personnel management, facilities, business records, insurance, and safety. Students will also learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100, AUX103, MHT106, MHT107*

### **GEN130V – INTRODUCTION TO CRITICAL THINKING**

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course presents students with techniques to develop their critical thinking skills. Topics include the six sequential steps of critical thinking, the importance of language, ambiguity, structure of arguments and creative problem solving. Upon successful completion of this course students should be able to demonstrate an improvement in their ability to apply critical thinking skills to real world situations.

*Prerequisite(s): None*

### **GEN180V – COLLEGE ALGEBRA**

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course focuses on algebraic concepts essential for success in the workplace and other courses. Using real world examples and applications, students practice fundamental operations with number systems, formulas, algebraic expressions and liner equations. This course also explores problems involving factoring, inequalities, exponents, radicals, linear equations, functions, quadratic equations and graphs. Skills for success in mathematics will be emphasized.

*Prerequisite(s): None*

### **GEN190V – ENGLISH COMPOSITION I**

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

Students develop written communication skills, with emphasis placed on the principles of effective communication which includes understanding the writing process, analysis of readings, as can be applied personally and professionally.

*Prerequisite(s): None*

### **GEN150V – ENVIRONMENTAL SCIENCE**

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course is designed to provide students with a basic scientific overview of how nature works and how things in nature are interconnected. This course explores the study of the earth's natural resources. Topics include the study of how air, water, soil, natural energy, and the minerals are critical and related parts of the earths interconnect systems.

*Prerequisite(s): None*

### **GEN292V – SPEECH COMMUNICATION**

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course will enhance the student's understanding and appreciation of the uses of oral and written communication and will teach the skills needed to write and speak effectively in a variety of situations.

*Prerequisite(s): None*



# Diesel and Truck Service Technology



Education Foundation

## MHTX100—DIPLOMA PROGRAM

### DAY/AFTERNOON/EVENING PROGRAMS

total instructional hours. . . . . 1320

total semester credits\* . . . . . 55

weeks to complete (day/aft/eve). . . approximately 57 (including holidays and scheduled breaks)

\*The listing of credits is not meant to imply that credits can be transferred into college or other private career school programs. Transfer credits are at the sole discretion of the receiving school.

CIP CODE: 47.0613

SOC CODE: 49-3031

#### program objective

This program is designed to prepare students for entry into the diesel and truck career field. Students enrolled in this program will learn theory, functions, diagnostics, and repair of diesel engines and natural gas fuel systems. Using industry standard tools and equipment, students will diagnose and repair electrical, mechanical, and fuel delivery systems on diesel engines, trucks, and trailers. Upon successful completion of the program, the graduate should possess knowledge and versatility in the diesel and truck repair field to qualify for entry-level positions as a mechanic, technician, mechanic's helper, or a fleet service technician in truck dealerships, fleet maintenance departments, private repair enterprises, or franchised truck repair organizations.

In addition to the technical training, a critical aspect of a Lincoln education is developing the professional skills that are required by our employers. Students will need to demonstrate skill proficiency through a series of professional development activities and seminars which are integrated into each course. The modules include:

- Student Success
- Financial Literacy
- Professional Development
- Career Success

Students will be required to complete out-of-class assignments in each course.

number	course	lecture hours	lab hours	internship hours	total hours	total credits	prerequisites
<b>FOUNDATION COURSES</b>							
MHT100	Shop Practices & Hydraulic Principles	60	60	0	120	5.0	
AUX103	Electrical Systems	60	60	0	120	5.0	
MHT101	Diesel Engines Construction and Operation	60	60	0	120	5.0	
<b>FOUNDATION TOTAL</b>		<b>180</b>	<b>180</b>	<b>0</b>	<b>360</b>	<b>15.0</b>	
<b>CORE COURSES</b>							
AUX208*	Air Conditioning and Electrical Accessories	60	60	0	120	5.0	MHT100, AUX103
MHT102*	Diesel Fuel Systems and Tune Up	60	60	0	120	5.0	MHT100, AUX103, MHT108
MHT103*	Heavy Duty Drive Trains	60	60	0	120	5.0	MHT100
MHT106*	Truck Steering and Suspension Systems	60	60	0	120	5.0	MHT100
MHT107*	Air and Hydraulic Brake Systems	60	60	0	120	5.0	MHT100
MHT108*	Truck Electrical and Electronics	60	60	0	120	5.0	MHT100, AUX103
AUX124*	Service Shop Management	60	60	0	120	5.0	MHT100, AUX103, AUX208
MHT223*	Preventative Maintenance & Welding	60	60	0	120	5.0	MHT100, AUX103, MHT106, MHT107
<b>CORE COURSE TOTAL</b>		<b>480</b>	<b>480</b>	<b>0</b>	<b>960</b>	<b>40.0</b>	
<b>TOTAL PROGRAM</b>		<b>660</b>	<b>660</b>	<b>0</b>	<b>1320</b>	<b>55.0</b>	

NOTE: Course numbers and sequences are listed here for reference only. The actual delivery sequence of courses contained in this program may vary depending on individual campus scheduling. Maximum Time Frame: 82.5 semester credits.

\*Prerequisite required.

Mode of Delivery: Residential, Blended Learning or Online are the methods we may use to deliver content in each course. The Residential courses are offered on ground at the campus. Blended courses are offered by delivering a fraction of the course in an online format as well as traditional face to face method. Online courses are delivered 100% online. The Blended delivery and online delivery plan will implement distance education activities into each course in the program of study. The use of simulations, case studies, assessments and multimedia will be used to enhance the students understanding of the learning objectives outlined in the course syllabus.



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**MHT100 – SHOP PRACTICES & HYDRAULIC PRINCIPLES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

The overall goal of this course is to facilitate a smooth transition to school by engaging the student in curriculum focusing on academics, career, and life skills. Students will make connections with key personnel within the school that will assist with their questions and provide guidance throughout their education.

The student will be introduced to medium and heavy duty truck systems, industry certifications, and job opportunities. Students will learn essential skills for the vehicle technician including safety and equipment fundamentals.

The student will also learn the basic operation of a hydraulic system. This includes giving a description of the operation and the diagnostic procedures for components in a hydraulic system. Students will study Pascal's Law and the Bernoulli's Principle of Hydraulics as they pertain to the repair industry. Lastly, the student will learn how to properly repair the basic hydraulic system in a hydraulic shop.

The course content will be balanced by an emphasis on skills that will enable the student to be successful in school and in life. These skills will include time management, financial management, goal setting, learning strategies, career planning, and critical thinking strategies.

*Prerequisite(s): None***AUX103 – ELECTRICAL SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with practical theory in basic and solid state circuitry, including body electrical systems, operation and service of automotive storage batteries, automobile charging systems, starting systems, and lighting systems. Students will evaluate components using both conventional and electronic diagnostic equipment.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose basic electrical, charging, starting, and lighting circuits through the use of diagnostic equipment to include test lights, multimeters, and continuity testers. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): None***MHT101 – DIESEL ENGINES CONSTRUCTION AND OPERATION***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills necessary to service medium and heavy duty diesel engines. Instruction on the operating principles, construction, design variations, and applications of the diesel engines are emphasized.

The student will learn how to perform a complete disassembly and assembly of the diesel engine, to include the cylinder head, block and timing gears, by using the instructions in the engine's manufacturers service manual. They will also learn the proper methods of inspecting, identifying and naming the components to determine serviceability of the components prior to making a repair. This will include learning how to make all the necessary precision measurements required for diagnosing component failure prior to servicing and repair of the engine.

The student will learn how to service, repair and diagnose the cooling and lubricating system of diesel engines. The student will learn the different types of coolants as well as additives and how to test for Supplemental Coolant Additives (SCA) to determine if additions to or replacement is needed. Students will learn how to perform coolant tests with different testing equipment.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): None***AUX208\* – AIR CONDITIONING AND ELECTRICAL ACCESSORIES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with theory and application of automobile air conditioning and heating systems. Students will also be presented

with the operation of various automobile accessories to include: power windows, door locks, and seats, and air bag operation and service.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to diagnose abnormal operation of air conditioning and heating systems, remove and replace air conditioning and heating system components, and evacuate and recharge automobile air conditioning systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100, AUX103***MHT102\* – DIESEL FUEL SYSTEMS AND TUNE UP***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills necessary to service fuel systems found on diesel powered truck tractors. The student will learn how to perform maintenance, service and repair on diesel fuel systems such as the Common Rail System, Detroit Diesel Electronic Controls (DDEC), different Cummins Systems, and International HEUI systems. The student will learn how to perform tune-ups on diesel engines by following manufacturer's service procedures and specifications.

The student will learn how to identify the different exhaust compounds from a diesel engine and define the ones that are classified as pollutants. The student will learn about the various manufacturers' exhaust aftertreatment systems. The student will learn how to perform an opacity smoke test and correlate the test results to engine performance and possible component failure.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100, AUX103, MHT108***MHT103\* – HEAVY DUTY DRIVE TRAINS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills necessary to service the drive trains found on diesel powered truck tractors. The student will learn how to identify the components of a heavy duty clutch system. Students will learn how to diagnose a clutch system for wear and damage and give the possible causes of specific clutch defects. The student will learn how to remove and replace a heavy duty truck clutch system.

The student will learn how to identify and describe the various gear designs and shift mechanisms used in heavy duty trucks. The student will also learn how to calculate both the gear pitch and gear ratios in a heavy duty drive line. The student will learn how to disassemble and reassemble a heavy duty transmission, differential and power divider as well as learning how to service the heavy duty drive line components in maintaining the correct lubricant and the level of lubricant in the system. The student will also learn how to perform basic diagnostic procedures on an automated standard transmission.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100***MHT106\* – TRUCK STEERING AND SUSPENSION SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills necessary to service heavy duty truck steering and suspension systems. The student will learn how to identify, diagnosis, service, repair, and adjust as necessary; the components of a heavy duty truck steering system to include toe-in, camber, caster, axle inclination, turning radius and axle alignment and how they affect tire wear, directional stability and handling. The student will learn how to balance truck tires and wheels and perform a wheel alignment to include the rear axle(s) by using computerized wheel alignment equipment

The student will learn how to service the major tire and wheel configurations used on heavy duty trucks. Students will learn how to perform bearing and seal service on both grease lubricated and oil lubricated front and rear hubs. The student will learn how to perform the basic checks for frame alignment and geometry and how the frame and chassis components are repaired. The student will learn how to service, repair and replace if necessary, the components on the four types of suspension systems.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100*

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### **MHT107\* – AIR AND HYDRAULIC BRAKE SYSTEMS**

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course has been designed to provide comprehensive information on air and hydraulic brake systems as they apply to medium heavy duty transport vehicles. The student will learn to identify, locate, and diagnose the components of the truck brake systems, as it applies to hydraulic, air over hydraulic, or air brake systems. The student will learn to perform maintenance, service, and repair of brake system components on medium and heavy duty truck.

The student will learn to identify, locate, diagnose, service, and repair as necessary, components of ABS, EBS systems on a heavy duty truck and trailer. The student will learn to use LED lights and blink codes to assist them in diagnosing problems with the ABS, EBS systems. The student will learn how to perform maintenance, service, repair, and overhaul of disc and drum brakes as it applies to hydraulic, air over hydraulic, and air brake systems found on medium and heavy duty trucks.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100*

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### **MHT108\* – TRUCK ELECTRICAL AND ELECTRONICS**

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the necessary skills and knowledge required to identify, service, and repair the different types of electrical and electronic circuits found on late model medium and heavy duty trucks. Operation, diagnosis, and service of the trucks computer systems will be emphasized.

The student will learn to apply Ohm's law to series, parallel and series-parallel circuits and how data is transmitted from the various engine, body, and electronic system sensors to onboard computers that control fuel management, driveability performance, and driver comfort systems.

The student will learn how to diagnose and service electrical and electronic systems using wiring diagrams, manufacturer service manuals, and specialized diagnostic equipment. The student will learn how to properly identify, disassemble, repair as necessary, and assemble connectors and wiring on medium and heavy duty trucks.

Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100, AUX103*

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### **AUX124\* – SERVICE SHOP MANAGEMENT**

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the students with exposure to an actual shop environment, procedures, and protocol by applying prominent skills obtained in previous courses. This course will also provide the student with an orientation and introduction to the management and business component of the automotive industry. The management and procedures associated with automotive related businesses are emphasized including employee/employer expectations, the service write-up process, business organizational structure, career opportunities, customer relations, personnel management, facilities, business records, insurance, and safety. Knowledge relating to management practices within an automotive business will help the student adapt and acclimate to the working environment.

Students will learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems.

Students will learn how to prepare an employment resume and application. Students will learn how to complete various forms used in automotive businesses. Students will learn how to properly interview for employment. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100, AUX103, AUX208*

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### **MHT223\* – PREVENTATIVE MAINTENANCE & WELDING**

*120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills necessary to perform service, maintenance, and PM Inspection on medium and heavy-duty trucks and trailers. The student will learn the proper procedures that must be taken to perform a PM Inspection including the completion of PM Inspection forms. The student will learn how a well-planned preventive maintenance program can reduce repair cost and increase the life of the truck, trailer, and other associated equipment.

The student will learn how to properly inspect, lubricate, and repair or replace as necessary; components of the truck drive line as well as checking for proper driveline angles and balance. The student will learn how to perform the proper service, maintenance, repairs and inspection procedures on the trailers lighting system, wheels, tires, brakes and other safety related components as required by law. The student will learn how to disassemble, inspect, service, and reassemble, the fifth wheel. Students will learn how to properly perform the necessary service and maintenance procedures related to pintle hooks and drawbars.

The student will learn how to take the necessary safety precautions as they pertain to cutting, welding and hydraulics. They will learn how to weld with a MIG welder. The student will also learn how to use an oxyacetylene combination torch to cut metal.

Students will also learn how to complete repair orders containing customer and vehicle information and corrective action. Students will learn how to research vehicle service information with computer and internet based electronic retrieval systems. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MHT100, AUX103, MHT106, MHT107*

# Electrical And Electronic Systems Technology

## ESTX100—DIPLOMA PROGRAM

### DAY/AFTERNOON/EVENING PROGRAMS

total instructional hours . . . . . 1200

total semester credits\* . . . . . 50

weeks to complete (day/aft/eve). . . approximately 52 (including holidays and scheduled breaks)

\*The listing of credits is not meant to imply that credits can be transferred into college or other private career school programs. Transfer credits are at the sole discretion of the receiving school.

CIP CODE: 46.0302 SOC CODE: 47-2111

#### program objective

This program is designed to provide the essential skills and knowledge for the installation, troubleshooting, repair, and maintenance of commercial and residential entertainment, security, monitoring, and telecommunications systems. Students learn to install cable support structures; laying out and preparing pathways for wiring and cables; installing, securing, testing, and termination of wiring and cables both copper and fiber optic; program digital components and access controls to perform their designated tasks; install and set up media management systems; and perform system commissioning and user training of audio, video, and data systems. The program also prepares students on the essential skills and knowledge needed for entry-level residential electrician work. Students will train on the installation, service and maintenance areas of the residential electrical industry.

Upon completion of this program, graduates can meet the minimum requirements needed to be qualified as an entry-level technician in the residential and/or commercial telecommunications, fire alarm, intrusion detection, and signaling, entertainment, audio/video/data, and energy management systems. Student can also qualify as entry-level residential electrician's apprentice.

In addition to the technical training, a critical aspect of a Lincoln education is developing the professional skills that are required by our employers. Students will need to demonstrate skill proficiency through a series of professional development activities and seminars which are integrated into each course. The modules include: Student Success, Financial Literacy, Professional Development, and Career Success.

Students will be required to complete out-of-class assignment in each course.

number	course	lecture hours	lab hours	internship hours	total hours	total credits	prerequisites
FOUNDATION COURSES							
EES101A	Introduction to the Trades	60	60	0	120	5.0	
FOUNDATION COURSE TOTAL		60	60	0	120	5.0	
CORE COURSES							
EES102	Material Applications	60	60	0	120	5.0	
EES103	Electronic and Electrical Principles	60	60	0	120	5.0	
EES104	Basic Electricity	60	60	0	120	5.0	
EES105*	Electrical Wiring Principles	60	60	0	120	5.0	EES103, EES104
EES106*	Electrical Controls and PLC	60	60	0	120	5.0	EES101A, EES103, EES104, EES105
EES108*	Fiber Optics, Telecommunication Systems & Networking	60	60	0	120	5.0	EES101A, EES103, EES104
EES109*	Security Systems, Access Control and CCTV	60	60	0	120	5.0	EES101A, EES103, EES104, EES105
EES110*	Fire Alarm Systems	60	60	0	120	5.0	EES101A, EES103, EES104, EES105
EES111*	Home Theater, Satellite & System Integration	60	60	0	120	5.0	EES101A, EES103, EES104, EES105
CORE COURSE TOTAL		540	540	0	1080	45.0	
TOTAL PROGRAM		600	600	0	1200	50.0	

NOTE: Course numbers and sequences are listed here for reference only. The actual delivery sequence of courses contained in this program may vary depending on individual campus scheduling. Maximum Time Frame: 75 semester credits.

\*Prerequisite required.

Mode of Delivery: Residential, Blended Learning or Online are the methods we may use to deliver content in each course. The Residential courses are offered on ground at the campus. Blended courses are offered by delivering a fraction of the course in an online format as well as traditional face to face method. Online courses are delivered 100% online. The Blended delivery and online delivery plan will implement distance education activities into each course in the program of study. The use of simulations, case studies, assessments and multimedia will be used to enhance the students understanding of the learning objectives outlined in the course syllabus.



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**EES101A – INTRODUCTION TO THE TRADES**

*120 Contact Hours (40 Hours Asynchronous, 20 Hours on campus for a total of 60 Lecture Hours, 60 Lab Hours on campus); 5.0 Credits*

The student will be taught how to use basic information for electrical and electronic industries as well as some basic concepts used in performing the electrical and low voltage technician's skill-sets. Material covered includes basic safety, mathematical principles focused on whole numbers, fractions, measurement, decimals, percentages, and the metric system. Additionally, students will be taught how to use hand tools and power tools most commonly used the trades, i.e.: screwdrivers, tape measures, hand saws, drills, etc.

*Prerequisite(s): None*

**EES102 – MATERIAL APPLICATIONS**

*120 Contact Hours (40 Hours Asynchronous, 20 Hours on campus for a total of 60 Lecture Hours, 60 Lab Hours on campus); 5.0 Credits*

The student will learn how to use basic blueprint concepts, and the hardware and systems used by an electrical and electronics technician to mount and support boxes, receptacles, and other low voltage components. The student will learn how to use the various types of anchors and supports, their applications, and how to install them safely. Additionally, an overview of electrical raceways from source to destination provided. The student will learn how to use conduit types and bending techniques which completes the student's training in this course.

*Prerequisite(s): None*

**EES103 – ELECTRONIC AND ELECTRICAL PRINCIPLES**

*120 Contact Hours (40 Hours Asynchronous, 20 Hours on campus for a total of 60 Lecture Hours, 60 Lab Hours on campus); 5.0 Credits*

This course provides the student with a general introduction to the concepts used in Ohm's Law applied to DC series, parallel and combined circuits. This course also provides an introduction to concepts used in AC circuits. Topics include electrical theory, electromotive force, resistance, capacitance, inductance, impedance and power equations. Students will study Semiconductors and Integrated circuit theory with hands on lab time to reinforce the learning. Students will study schematic symbols and practice building circuits from schematic diagrams. Students also study appropriate application of proper diagnostic and maintenance procedures using electrical and electronic test equipment to include: meters, oscilloscopes, meg- ohm-meter, watt meters, frequency meters/generators, time domain reflectometers, continuity testers, recording instruments, and RF analyzers.

*Prerequisite(s): None*

**EES104 – BASIC ELECTRICITY**

*120 Contact Hours (40 Hours Asynchronous, 20 Hours on campus for a total of 60 Lecture Hours, 60 Lab Hours on campus); 5.0 Credits*

This course introduces the student to the electrical trade and provides them with knowledge in the areas of Electrical safety and residential electrical services. It also introduces them to the National Electrical Code and how to find the applicable codes and requirements in the electrical trade. It further provides the student with knowledge in the areas of grounding and bonding of electrical systems; NEC regulations pertaining to grounding and bonding; equipment and devices used for grounding and bonding. Students will also learn about other types of equipment and devices used in the electrical and electronic trades.

*Prerequisite(s): None*

**EES105 – ELECTRICAL WIRING PRINCIPLES**

*120 Contact Hours (40 Hours Asynchronous, 20 Hours on campus for a total of 60 Lecture Hours, 60 Lab Hours on campus); 5.0 Credits*

This course will provide the student with thorough understanding various types of conductors used in all types of electrical systems. Students will learn how to terminate conductors with different applications with the appropriate connector and/or terminal. Additionally, students will learn and practice installing conductors, pull and junction boxes using a variety of fasteners needed for a given application. Finally, they will learn the fundamentals of solar voltaic systems including design and configuration and installation.

*Prerequisite(s): EES103, EES104*

**EES106 – ELECTRICAL CONTROLS AND PLC**

*120 Contact Hours (40 Hours Asynchronous, 20 Hours on campus for a total of 60 Lecture Hours, 60 Lab Hours on campus); 5.0 Credits*

This course will provide the student with a thorough understanding and functions of the various components used in motor control systems. The student will be introduced to the maintenance and troubleshooting functions of motor controls systems. The

student will also learn about the different types of devices and components used within motors controls systems. The course will also focus on basic guidelines and procedural information for receiving and storing, handling and installing lamps and lighting fixtures. The student will learn about (NEMA) National Electrical Manufacturers Association as they prepare to work with magnetic coils and relays, contacts and holding circuit interlock and other structural features of solenoids, timers, starters and contactors. The student will also learn about fuses and circuit breakers. They will understand how they provide protection to electrical conductors and equipment against abnormal conditions. Students will also become familiar with Programmable Logic Controllers and programming them by usage of logic ladders.

*Prerequisite(s): EES101A, EES103, EES104, EES105*

**EES108 – FIBER OPTICS, TELECOMMUNICATION SYSTEMS & NETWORKING**

*120 Contact Hours (40 Hours Asynchronous, 20 Hours on campus for a total of 60 Lecture Hours, 60 Lab Hours on campus); 5.0 Credits*

This course provides the student knowledge of the basic operation of telephone systems, types of system cables, cable color coding, cable connectors, and installation techniques in addition to identifying the types of data networks, test equipment, and procedures used in testing cables. The student will use the proper procedure and technique to install fiber-optic cabling and support equipment, while describing or demonstrating the types of fiber-optic splicing and/or terminations to achieve an acceptable and "test verified" loss within a specified and acceptable range. In addition, the student will be able to network several computers together back to a main computer.

*Prerequisite(s): EES101A, EES103, EES104*

**EES109 – SECURITY SYSTEMS, ACCESS CONTROL AND CCTV**

*120 Contact Hours (40 Hours Asynchronous, 20 Hours on campus for a total of 60 Lecture Hours, 60 Lab Hours on campus); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills to install and troubleshoot call signaling systems, entry/access control systems, intrusion detection, security, and surveillance systems (included is CCTV system and key components of a CCTV system) Students will learn the function and how to install and troubleshoot systems in the areas of access control, security systems and intrusion detection, video surveillance. The students will also gain fundamental knowledge of low voltage cabling used in these systems as well as other low voltage systems.

*Prerequisite(s): EES101A, EES103, EES104, EES105*

**EES110 – FIRE ALARM SYSTEMS**

*120 Contact Hours (40 Hours Asynchronous, 20 Hours on campus for a total of 60 Lecture Hours, 60 Lab Hours on campus); 5.0 Credits*

This course provides the student with the knowledge and skills required to successfully, plan, install and problem-solve, both standard Fire Alarm systems and Programmable Fire Alarm systems. Students will be taught the proper methods and equipment to use in residential and industrial fire- detection applications. Proper wiring/cable selection, fire-detection equipment selection, and system layout/planning will be obtained in this course of study. Programming of Fire Alarm devices and systems will be introduced. Theory of typical Fire Alarm software will be presented in this course of study. Hands-on practices of the software applications are included in the course of study.

*Prerequisite(s): EES101A, EES103, EES104, EES105*

**EES111 – HOME THEATER, SATELLITE AND SYSTEM INTEGRATION**

*120 Contact Hours (40 Hours Asynchronous, 20 Hours on campus for a total of 60 Lecture Hours, 60 Lab Hours on campus); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills required to install and troubleshoot rack systems, system integration, and residential systems integration. The students will be taught component function and how to install complete systems racks, residential automation systems. The students will be taught system commissioning and how to train client based systems. In addition, they will learn finish phase testing along with maintenance and repair.

*Prerequisite(s): EES101A, EES103, EES104, EES105*



# Electrical and Electronic Systems Technology Service Management

## ESTX100AS—ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

### DAY/AFTERNOON/EVENING PROGRAMS

total instructional hours. . . . . 1425

total semester credits\* . . . . . 65

weeks to complete (day/aft/eve). . . approximately 77 (including holidays and scheduled breaks)

\*The listing of credits is not meant to imply that credits can be transferred into college or other private career school programs. Transfer credits are at the sole discretion of the receiving school.

CIP CODE: 46.0302

SOC CODE: 47-2111

#### program objective

This degree is designed to provide the essential skills and knowledge for the installation, troubleshooting, repair, and maintenance of commercial and residential entertainment, security, monitoring, and telecommunications systems. Graduates of this degree will learn to install cable support structures; laying out and preparing pathways for wiring and cables; installing, securing, testing, and termination of wiring and cables both copper and fiber optic; program digital components and access controls to perform their designated tasks; install and set up media management systems; and perform system commissioning and user training of audio, video, and data systems. This degree program also prepares students on the essential skills and knowledge needed for entry-level residential electrician work. Students will train in installation, service and maintenance areas of the residential electrical industry.

Upon completion of this program, graduates can meet the minimum requirements needed to be qualified as an entry-level technician in the residential

and/or commercial telecommunications, fire alarm, intrusion detection, and signaling, entertainment, audio/video/data, and energy management systems. Students can also qualify as entry-level residential electrician's apprentice. The general education component will provide students with the communication, business, and critical thinking skills necessary to pursue other employment opportunities within the industry.

In addition to the technical training, a critical aspect of a Lincoln education is developing the professional skills that are required by our employers. Students will need to demonstrate skill proficiency through a series of professional development activities and seminars which are integrated into each course. The modules include: Student Success, Financial Literacy, Professional Development and Career Success. Students will be required to complete out of class assignments in each course.

number	course	lecture hours	lab hours	internship hours	total hours	total credits	prerequisites
<b>FOUNDATION COURSES</b>							
EES101A	Introduction to the Trades	60	60	0	120	5.0	
FOUNDATION COURSE TOTAL		60	60	0	120	5.0	
<b>CORE COURSES</b>							
EES102	Material Applications	60	60	0	120	5.0	
EES103	Electronic and Electrical Principles	60	60	0	120	5.0	
EES104	Basic Electricity	60	60	0	120	5.0	
EES105*	Electrical Wiring Principles	60	60	0	120	5.0	EES103, EES104
EES106*	Electrical Controls and PLC	60	60	0	120	5.0	EES101A, EES103, EES104, EES105
EES108*	Fiber Optics, Telecommunication Systems & Networking	60	60	0	120	5.0	EES101A, EES103, EES104
EES109*	Security Systems, Access Control and CCTV	60	60	0	120	5.0	EES101A, EES103, EES104, EES105
EES110*	Fire Alarm Systems	60	60	0	120	5.0	EES101A, EES103, EES104, EES105
EES111*	Home Theater, Satellite & System Integration	60	60	0	120	5.0	EES101A, EES103, EES104, EES105
CORE COURSE TOTAL		540	540	0	1080	45.0	
<b>GENERAL EDUCATION COURSES</b>							
GEN190V	English Composition I	45	0	0	45	3.0	
GEN292V	Speech Communication	45	0	0	45	3.0	
GEN180V	College Algebra	45	0	0	45	3.0	
GEN130V	Introduction to Critical Thinking	45	0	0	45	3.0	
GEN150V	Environmental Science	45	0	0	45	3.0	
GENERAL EDUCATION COURSE TOTAL		225	0	0	225	15.0	
TOTAL PROGRAM		825	600	0	1425	65.0	

NOTE: Course numbers and sequences are listed here for reference only. The actual delivery sequence of courses contained in this program may vary depending on individual campus scheduling. Maximum Time Frame: 97.5 semester credits.

\*Prerequisite required.

Mode of Delivery: Residential, Blended Learning or Online are the methods we may use to deliver content in each course. The Residential courses are offered on ground at the campus. Blended courses are offered by delivering a fraction of the course in an online format as well as traditional face to face method. Online courses are delivered 100% online. The Blended delivery and online delivery plan will implement distance education activities into each course in the program of study. The use of simulations, case studies, assessments and multimedia will be used to enhance the students understanding of the learning objectives outlined in the course syllabus.



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**EES101A – INTRODUCTION TO THE TRADES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

The student will be taught how to use basic information for electrical and electronic industries as well as some basic concepts used in performing the electrical and low voltage technician's skill-sets. Material covered includes basic safety, mathematical principles focused on whole numbers, fractions, measurement, decimals, percentages, and the metric system. Additionally, students will be taught how to use hand tools and power tools most commonly used the trades, i.e.: screwdrivers, tape measures, hand saws, drills, etc.

*Prerequisite(s): None***EES102 – MATERIAL APPLICATIONS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

The student will learn how to use basic blueprint concepts, and the hardware and systems used by an electrical and electronics technician to mount and support boxes, receptacles, and other low voltage components. The student will learn how to use the various types of anchors and supports, their applications, and how to install them safely. Additionally, an overview of electrical raceways from source to destination provided. The student will learn how to use conduit types and bending techniques which completes the student's training in this course.

*Prerequisite(s): None***EES103- ELECTRONIC AND ELECTRICAL PRINCIPLES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course provides the student with a general introduction to the concepts used in Ohm's Law applied to DC series, parallel and combined circuits. This course also provides an introduction to concepts used in AC circuits. Topics include electrical theory, electromotive force, resistance, capacitance, inductance, impedance and power equations. Students will study Semiconductors and Integrated circuit theory with hands on lab time to reinforce the learning. Students will study schematic symbols and practice building circuits from schematic diagrams. Students also study appropriate application of proper diagnostic and maintenance procedures using electrical and electronic test equipment to include: meters, oscilloscopes, meg- ohm-meter, watt meters, frequency meters/generators, time domain reflectometers, continuity testers, recording instruments, and RF analyzers.

*Prerequisite(s): None***EES104– BASIC ELECTRICITY***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course introduces the student to the electrical trade and provides them with knowledge in the areas of Electrical safety and residential electrical services. It also introduces them to the National Electrical Code and how to find the applicable codes and requirements in the electrical trade. It further provides the student with knowledge in the areas of grounding and bonding of electrical systems; NEC regulations pertaining to grounding and bonding; equipment and devices used for grounding and bonding. Students will also learn about other types of equipment and devices used in the electrical and electronic trades.

*Prerequisite(s): None***EES105\* – ELECTRICAL WIRING PRINCIPLES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course will provide the student with thorough understanding various types of conductors used in all types of electrical systems. Students will learn how to terminate conductors with different applications with the appropriate connector and/or terminal. Additionally, students will learn and practice installing conductors, pull and junction boxes using a variety of fasteners needed for a given application. Finally, they will learn the fundamentals of solar voltaic systems including design and configuration and installation.

*Prerequisite(s): EES103, EES104***EES106\* –ELECTRICAL CONTROLS AND PLC***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course will provide the student with a thorough understanding and functions of the various components used in motor control systems. The student will be introduced to the maintenance and troubleshooting functions of motor controls systems. The student will also learn about the different types of devices and components used within motors controls systems. The course will also focus on basic guidelines and procedural information for receiving and storing, handling and installing lamps and lighting fixtures. The student will learn about (NEMA) National Electrical Manufacturers Association as they prepare to work with magnetic coils and relays, contacts and holding circuit interlock and other structural features of solenoids, timers, starters and contactors. The student will also learn about fuses and circuit breakers. They will understand how they provide protection to electrical conductors and equipment against abnormal conditions. Students will also become familiar with Programmable Logic Controllers and programming them by usage of logic ladders.

*Prerequisite(s): EES101A, EES103, EES104, EES105***EES108\*– FIBER OPTICS, TELECOMMUNICATION SYSTEMS & NETWORKING***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course provides the student knowledge of the basic operation of telephone systems, types of system cables, cable color coding, cable connectors, and installation techniques in addition to identifying the types of data networks, test equipment, and procedures used in testing cables. The student will use the proper procedure and technique to install fiber-optic cabling and support equipment, while describing or demonstrating the types of fiber-optic splicing and/or terminations to achieve an acceptable and "test verified" loss within a specified and acceptable range. In addition, the student will be able to network several computers together back to a main computer.

*Prerequisite(s): EES101A, EES103, EES104***EES109\* – SECURITY SYSTEMS, ACCESS CONTROL AND CCTV***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills to install and troubleshoot call signaling systems, entry/access control systems, intrusion detection, security, and surveillance systems (included is CCTV system and key components of a CCTV system) Students will learn the function and how to install and troubleshoot systems in the areas of access control, security systems and intrusion detection, video surveillance. The students will also gain fundamental knowledge of low voltage cabling used in these systems as well as other low voltage systems.

*Prerequisite(s): EES101A, EES103, EES104, EES105***EES110\* FIRE ALARM SYSTEMS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course provides the student with the knowledge and skills required to successfully, plan, install and problem-solve, both standard Fire Alarm systems and Programmable Fire Alarm systems. Students will be taught the proper methods and equipment to use in residential and industrial fire- detection applications. Proper wiring/cable selection, fire-detection equipment selection, and system layout/planning will be obtained in this course of study. Programming of Fire Alarm devices and systems will be introduced. Theory of typical Fire Alarm software will be presented in this course of study. Hands-on practices of the software applications are included in the course of study.

*Prerequisite(s): EES101A, EES103, EES104, EES105***EES111\* HOME THEATER, SATELLITE AND SYSTEM INTEGRATION***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is designed to provide the student with the knowledge and skills required to install and troubleshoot rack systems, system integration, and residential systems integration. The students will be taught component function and how to install complete systems racks, residential automation systems. The students will be taught system commissioning and how to train client based systems. In addition, they will learn finish phase testing along with maintenance and repair.

*Prerequisite(s): EES101A, EES103, EES104, EES105*

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### GEN130V – INTRODUCTION TO CRITICAL THINKING

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course presents students with techniques to develop their critical thinking skills. Topics include the six sequential steps of critical thinking, the importance of language, ambiguity, structure of arguments and creative problem solving. Upon successful completion of this course students should be able to demonstrate an improvement in their ability to apply critical thinking skills to real world situations.

*Prerequisite(s): None*

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### GEN180V – COLLEGE ALGEBRA

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course focuses on algebraic concepts essential for success in the workplace and other courses. Using real world examples and applications, students practice fundamental operations with number systems, formulas, algebraic expressions and linear equations. This course also explores problems involving factoring, inequalities, exponents, radicals, linear equations, functions, quadratic equations and graphs. Skills for success in mathematics will be emphasized.

*Prerequisite(s): None*

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### GEN190V – ENGLISH COMPOSITION I

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

Students develop written communication skills, with emphasis placed on the principles of effective communication which includes understanding the writing process, analysis of readings, as can be applied personally and professionally.

*Prerequisite(s): None*

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### GEN150V – ENVIRONMENTAL SCIENCE

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course is designed to provide students with a basic scientific overview of how nature works and how things in nature are interconnected. This course explores the study of the earth's natural resources. Topics include the study of how air, water, soil, natural energy, and the minerals are critical and related parts of the earths interconnect systems.

*Prerequisite(s): None*

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### GEN292V – SPEECH COMMUNICATION

*45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course will enhance the student's understanding and appreciation of the uses of oral communication and will teach the skills needed to speak effectively in a variety of situations.

*Prerequisite(s): None*

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**EFFECTIVE JUNE 16, 2022**

**ADD the articulation agreement language to the following programs:**

**LINCOLN COLLEGE OF TECHNOLOGY HOLDS AN ARTICULATION AGREEMENT WITH  
CAMBRIDGE COLLEGE**

**Medical Assistant.....Page 16  
MAPX100 – DIPLOMA PROGRAM**

**EFFECTIVE OCTOBER 15, 2022**

**DELETE the asterisk note from following policy on page 47:**

**TREATMENT OF GRADES AND CREDITS**

*All restrictions due to the COVID-19 pandemic have been lifted.*

**EFFECTIVE JANUARY 2, 2023**

**REVISE the following policy on page 35:**

**Tools**

All tools and materials for the programs must be purchased by the student. Special tools to be used in the program are supplied by the school on a loan basis. To be employable in industry, a graduate must be equipped with his own basic set of hand tools.

If the student does not already have his own tools, they can be purchased from the school or purchased from any outside source of the student's choice. The school cannot assume responsibility for the student's property on or off the school premises.

Any student enrolled in the Automotive, Diesel or Collision programs and starting classes after January 2, 2023, will be receiving MATCO tools from Lincoln College of Technology (LCT) in the very early stages of the curriculum to be used in your program of study. This MATCO tool program will replace any process previously described or offered through LCT.

**EFFECTIVE JUNE 28, 2023**

**REPLACE the following program on page 17:**

**Welding Technology**

**WLD141D–DIPLOMA PROGRAM**

**REPLACE WITH**

**Welding and Fabrication Technology with Pipe**

**WLDX200 – DIPLOMA PROGRAM**

*Program fact sheet to follow*

# Welding and Fabrication Technology with Pipe

## WLDX200—DIPLOMA PROGRAM

### DAY/AFTERNOON/EVENING PROGRAM

CIP CODE: 48.0508 SOC CODE: 51-4121

total instructional hours . . . . . 960  
total semester credit hours\* . . . . . 40.0  
approximate weeks to complete—day/aft/eve . . . . . 42 (includes holidays and scheduled breaks)

\*The listing of credit hours is not meant to imply that credits can be transferred into college or other private career school programs. Transfer credits are at the sole discretion of the receiving school.

#### program objective

The Welding and Fabrication Technology with Pipe program prepares students for entry level welder positions as structural welders. Students develop key fundamental skills during the initial courses and learn to apply these skills using different and more complex welding procedures. The welding procedures include Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW/MIG), Flux Core Arc Welding (FCAW), and Gas Tungsten Arc Gas Welding (GTAW/TIG). Using each of these procedures, students learn to weld plate in various positions including horizontal, vertical, and overhead. Students also learn various techniques for cutting and preparing metal for welding procedures.

Upon successful completion of all components of this program, the graduate should possess the working knowledge and skills to qualify as a structural welder using any one of three standard welding processes in construction, fabrication, or plant maintenance work

settings. Students should be able to successfully complete pre-qualification tests for any construction, structural, or pipe related projects.

Students will be required to complete out-of-class assignment in each course. In addition to the technical training, a critical aspect of a Lincoln education is developing the professional skills that are required by our employers. Students will need to demonstrate skill proficiency through a series of professional development activities and seminars which are integrated into each course. The modules include:

- Student Success
- Financial Literacy
- Professional Development
- Career Success

number	course	lecture hours	lab/shop hours	total hours	total credits	prerequisites
FOUNDATION COURSES						
WEL110	Welding and Cutting Fundamentals	60	60	120	5.0	
FOUNDATION TOTAL		60	60	120	5.0	
CORE COURSES						
WEL120*	Basic Arc Welding Procedures	60	60	120	5.0	WEL110
WEL130*	SMAW – Plate Welding	60	60	120	5.0	WEL110, WEL120
WEL140*	GMAW/FCAW (MIG) – Plate Welding	60	60	120	5.0	WEL110, WEL120, WEL130
WEL150*	GTAW (TIG) – Welding Procedures	60	60	120	5.0	WEL110, WEL120, WEL130
WEL160*	SMAW – Pipe Welding	60	60	120	5.0	WEL110, WEL120, WEL130, WEL140
WEL170*	GMAW/FCAW (MIG) – Pipe Welding	60	60	120	5.0	WEL110, WEL120, WEL130, WEL140
WEL180*	GMAW/GTAW – Fabrication Processes	60	60	120	5.0	WEL110, WEL120, WEL130, WEL140, WEL150
CORE COURSE TOTAL		420	420	840	35.0	
TOTAL PROGRAM		480	480	960	40.0	

NOTE: Course numbers and sequences are listed here for reference only. The actual delivery sequence of courses contained in this program may vary depending on individual campus scheduling. Maximum Time Frame: 60.0 semester credits.

\*Prerequisite required.

Mode of Delivery: Residential, Blended Learning or Online are the methods we may use to deliver content in each course. The Residential courses are offered on ground at the campus. Blended courses are offered by delivering a fraction of the course in an online format as well as traditional face to face method. Online courses are delivered 100% online. The Blended delivery and online delivery plan will implement distance education activities into each course in the program of study. The use of simulations, case studies, assessments and multimedia will be used to enhance the students understanding of the learning objectives outlined in the course syllabus.



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**WEL110 – WELDING AND CUTTING FUNDAMENTALS***120 Contact Hours (60 Lecture Hours/60 Lab Hours); 5.0 Semester Credit Hours*

In this course students are introduced to the type of tasks generally performed by welders and how their skills and knowledge are applied to both the construction and manufacturing industries. Because of its importance students will also learn how safety procedures apply to welding and cutting operations. They will also complete a ten-hour OSHA approved safety orientation that explains job site hazards, accident prevention, and standard safety procedures.

Students will learn to set-up and safely use oxyfuel metal cutting equipment and processes. They will then learn to read and interpret welding symbols from construction drawings. These symbols direct the student to use the correct welding procedure to meet the specifications.

Students will learn the classifications and types of welding electrodes used in arc welding. In addition, they will learn the criteria used to select the proper electrode for a specific application. Students will also properly set up SMAW arc welding equipment prior to beginning welding operations. They will learn about the different types of welding equipment and the types of current used in their operation. As a part of learning about the total scope of welding operations, students will be introduced to various welding codes and the agencies that govern these codes. They will see examples of weld imperfections and learn what causes these defects. Students will also be introduced to various weld testing procedures.

*Prerequisite(s): None*

**WEL120 – BASIC ARC WELDING PROCEDURES***120 Contact Hours (60 Lecture Hours/60 Lab Hours); 5.0 Semester Credit Hours*

This course is a continuation of WEL110 Welding and Cutting Fundamentals and introduces new technical information as well as continues to develop fundamental arc welding skills.

As a continuation about the characteristics of metal, students will learn to properly prepare metal for cutting and welding operations. This includes cleaning and grinding operations. They will also learn some of the basic joints used in welding metals together. Students will then use plasma arc cutting equipment to cut metal at a faster rate with a cleaner cut. As metal is heated and cooled, its characteristics and strength can change considerably. Students learn how metal is formed when it transfers from a liquid to a solid form, what are identifying metal designations and structural shapes and the strength characteristics of various types of metal, and the effect heat has on the strength properties of metal.

Students will be given an opportunity to continue to develop their skills in operating electric arc welding equipment and developing SMAW arc welding control and application techniques. Students are expected to successfully weld weave and overlapping beads, horizontal fillet welds (2F position), vertical fillet welds (3F position), and overhead fillet welds (4F position). In the process they will use fit up gauges and measuring devices to be sure the metal is properly aligned before beginning welding operations.

*Prerequisite(s): WEL110*

**WEL130 – SMAW - PLATE WELDING***120 Contact Hours (60 Lecture Hours/60 Lab Hours); 5.0 Semester Credit Hours*

In this course, students first learn a new technique for cutting, gouging, and “washing” steel using air carbon arc cutting and gouging equipment.

Students then use the welding techniques they developed in the first two courses and apply them to welding plate metal with open grooves. Students will learn to form grooves in plate metal and setup welding plate using a metal backing.

Students will learn to weld steel plate in a flat V-Groove (1G position), and vertical V-Groove (3G position). Students will also learn to weld V-Groove steel plate in the 1G, and 3G position.

*Prerequisite(s): WEL110, WEL120*

**WEL140 – GMAW/FCAW (MIG) – PLATE WELDING***120 Contact Hours (60 Lecture Hours/60 Lab Hours); 5.0 Semester Credit Hours*

This course introduces students to Gas Metal Arc Welding and Flux Core Arc Welding processes used for welding carbon steel plate. Students will learn the similarities and differences for these two processes. They will learn to setup the welding machine, gas flow meter, and welding gun. Students will then practice welding plate in the Fillet Weld positions (1F, 2F, 3F, and 4F) and Open Root V-Groove positions (1G, 2G, 3G, and 4G) using both processes.

*Prerequisite(s): WEL110, WEL120, WEL130*

**WEL150 – GTAW (TIG) –WELDING PROCEDURES***120 Contact Hours (60 Lecture Hours/60 Lab Hours); 5.0 Semester Credit Hours*

This course introduces students to Gas Tungsten Arc Welding (GTAW) processes. Students will learn the different components of GTAW equipment, the different types of filler metals used, and the types of shielding gases used in the welding process. They will learn to weld sheet steel, aluminum, and stainless steel in several basic joint designs to include butt weld, T-joint weld, and a lap weld.

*Prerequisite(s): WEL110, WEL120, WEL130*

**WEL160 – SMAW – PIPE WELDING***120 Contact Hours (60 Lecture Hours/60 Lab Hours); 5.0 Semester Credit Hours*

In this course students apply their welding skills to welding large bore pipe. Similar to plate welding, an Open V-Groove is used for welding pipe. Students will learn the process for cutting the V-Groove to prepare pipe for welding procedures. They will also learn to align and clamp pipe in place prior to beginning welding.

Students will then learn to weld steel pipe in a flat (1G-Rotated) position, horizontal (2G) position, multiple (5G) position, and multiple inclined (6G) position using an SMAW open-root, V-Groove welding procedure. Welds will be tested using a destructive type bend test.

*Prerequisite(s): WEL110, WEL120, WEL130, WEL140*

**WEL170 – GMAW/FCAW (MIG) – PIPE WELDING***120 Contact Hours (60 Lecture Hours/60 Lab Hours); 5.0 Semester Credit Hours*

This course teaches students to set up welding equipment for welding pipe using GMAW and FCAW procedures. Students will apply V-Groove techniques for welding mild steel pipe. They will weld pipe in the 1G-Rotated, and 6G positions for each of the two processes (GMAW and FCAW). Welds will be tested using a destructive type bend test.

*Prerequisite(s): WEL110, WEL120, WEL130, WEL140*

**WEL180 – GMAW/GTAW – FABRICATION PROCESSES***120 Contact Hours (60 Lecture Hours/60 Lab Hours); 5.0 Semester Credit Hours*

This course applies both GMAW and GTAW welding procedures to various fabrication processes. Students set up equipment to weld various types of sheet metal. Using an assigned project, students will read and interpret drawings, learn to layout, cut and/or correctly apply bend reductions to specifications, and weld joints using weld designs and procedures learned in WEL140 and WEL150. Sheet metal application may be steel, stainless steel, and/or aluminum.

*Prerequisite(s): WEL110, WEL120, WEL130, WEL140, WEL150*

**EFFECTIVE JULY 1, 2023**

**REVISE the following definition on page 45:**

**Grading**

Percentage	Letter Grade	Interpretation	Point Value
Withdrawal	WA	Received by students who withdraw from a course before the end of the add/drop period.	N/A

**EFFECTIVE AUGUST 15, 2023**

**REVISE the first paragraph of the following policy on page 43:**

**Attendance**

The technical nature of the training and graduate employability goals of the programs offered requires that students attend classes on a regular basis. Our expectation is that students will attend all sessions for courses in which they are registered. Class attendance is monitored daily commencing with the student's first official day of attendance and a student will be considered withdrawn from a course or courses when any of the following criteria are met:

- The fourteenth consecutive calendar day of absence (two weeks) with the exception of published holidays and breaks;
- Cumulative absences prevent the student's ability to master the course content during the remainder of the scheduled course, term, or semester as determined by the course syllabus.

**EFFECTIVE AUGUST 21, 2023**

**ADD the following program to the CAREER PROGRAMS on page 7:**

**Medical Assistant Technology**

MAPX100AS– ASSOCIATE IN APPLIED SCIENCE DEGREE PROGRAM

*Program fact sheet to follow*

**EFFECTIVE SEPTEMBER 7, 2023**

**REVISE the third paragraph of the program objective in the following program on page 10:**

**Medical Assistant**

MAPX100 – DIPLOMA PROGRAM

Graduates of this program may find entry-level positions as a Medical Assistant. It also provides the diversity of other settings such as doctors' offices, hospitals, urgent care, outpatient care centers, and other medical facilities.

# Medical Assistant Technology

## MAPX100AS— ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM DAY/AFTERNOON/EVENING PROGRAMS

total instructional hours . . . . . 1465  
total semester credits\* . . . . . 63.5  
weeks to complete (day/aft/eve). . . approximately 79 (including holidays and scheduled breaks)

\*The listing of credits is not meant to imply that credits can be transferred into college or other private career school programs. Transfer credits are at the sole discretion of the receiving school.

CIP CODE: 51.0801 SOC CODE: 31-9092

### program objective

The Medical Assistant Technology program prepares students to be multi-functional practitioners, thoroughly prepared to perform front office and clinical patient care duties, as well as, basic urgent care procedures. Topics covered include anatomy and physiology, medical terminology, insurance billing and coding, electronic health records, ethics, clinical procedures, aseptic technique, minor surgical procedures, universal precautions, general skills in document formatting, and EKG. This program delivers practical preparation in the healthcare environment.

In addition to the technical training, a critical aspect of a Lincoln education is developing the professional skills that are required by our employers. Students will need to demonstrate skill proficiency through a series of professional

development activities and seminars which are integrated into each course. The modules include Student Success, Financial Literacy, Professional Development, and Career Success.

The degree program is designed to develop the student's strength in areas that will assist in their personal and professional growth. Graduates of this program may find entry-level positions as a Medical Assistant. It also provides the diversity of other settings such as doctors' offices, hospitals, urgent care, outpatient care centers, and other medical facilities.

Students will be required to complete out-of-class assignment in each course, except internship.

number	course	lecture hours	lab hours	internship hours	total hours	total credits	prerequisites
<b>FOUNDATION COURSES</b>							
MAP101	Introduction to Allied Health	60	60	0	120	5.0	
<b>FOUNDATION TOTAL</b>		<b>60</b>	<b>60</b>	<b>0</b>	<b>120</b>	<b>5.0</b>	
<b>CORE COURSES</b>							
MAP110*	Cardiopulmonary Medical Procedures	60	60	0	120	5.0	MAP101
MAP120*	Musculoskeletal System and Medication Administration	60	60	0	120	5.0	MAP101
MAP130*	Clinical Lab Techniques	60	60	0	120	5.0	MAP101
MAP140*	Laboratory and Surgical Procedures	60	60	0	120	5.0	MAP101
MAP150*	Administrative Medical Office	60	60	0	120	5.0	MAP101
MAP200	Medical Insurance and Billing	60	60	0	120	5.0	MAP101, MAP150
MAP210	Electronic Medical Records	60	60	0	120	5.0	MAP101, MAP150
MAP230	Medical Coding	60	60	0	120	5.0	MAP101, MAP150
MAP300**	Medical Assisting Internship	0	0	160	160	3.5	MAP101, MAP110, MAP120, MAP130, MAP140, MAP150
<b>CORE COURSE TOTAL</b>		<b>480</b>	<b>480</b>	<b>160</b>	<b>1120</b>	<b>43.5</b>	
<b>GENERAL EDUCATION COURSES</b>							
GEN130V	Introduction to Critical Thinking	45	0	0	45	3.0	
GEN150V	Environmental Science	45	0	0	45	3.0	
GEN180V	College Algebra	45	0	0	45	3.0	
GEN190V	English Composition I	45	0	0	45	3.0	
GEN292V	Speech Communication	45	0	0	45	3.0	
<b>GENERAL EDUCATION COURSE TOTAL</b>		<b>225</b>	<b>0</b>	<b>0</b>	<b>225</b>	<b>15.0</b>	
<b>TOTAL PROGRAM</b>		<b>765</b>	<b>540</b>	<b>160</b>	<b>1465</b>	<b>63.5</b>	

Maximum Time Frame (MTF): 95 Semester Credits

Note: Course numbers and sequences are listed here for reference only. The actual delivery sequence of courses contained in this program may vary depending on individual campus scheduling.

The Internship is a full-time commitment of 160 hours at approximately 32 hours per week for 5 weeks. Internship hours are daytime hours for both day and evening programs. All weeks exclude holidays, course change days and make-up hours for absences during internship. Actual times are set by the internship site. Students are responsible for transportation to and from the intern site, as well as meals.

\*Prerequisite required.

\*\*Prerequisites: Successful completion of all in-school coursework prior to internship.

Mode of Delivery: Residential, Blended Learning or Online are the methods we may use to deliver content in each course. The Residential courses are offered on ground at the campus. Blended courses are offered by delivering a fraction of the course in an online format as well as traditional face to face method. Online courses are delivered 100% online. The Blended delivery and online delivery plan will implement distance education activities into each course in the program of study. The use of simulations, case studies, assessments and multimedia will be used to enhance the students understanding of the learning objectives outlined in the course syllabus.



### INDIANAPOLIS CAMPUS

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LOANS AND GRANTS AVAILABLE TO THOSE WHO QUALIFY

04 16323 R0923

**MAP101 – INTRODUCTION TO ALLIED HEALTH***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course introduces the student to the world of healthcare. The student will be introduced to basic medical terminology including prefixes, suffixes, word roots, and rules to build, spell and pronounce terms. The course also includes anatomy and physiology basics such as the structural organization of the human body, positional and directional terms. This course introduces the student to law and ethics in the health field. Students will also learn and demonstrate Infection Control, proper techniques to obtain vital signs, HIPAA, and OSHA. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): None***MAP110 – CARDIOPULMONARY MEDICAL PROCEDURES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course introduces the student to the anatomy, physiology and medical terms associated with the cardiovascular, blood and respiratory systems. Students will learn the proper technique in blood collection and analysis of the blood sample. They will also learn to prepare a patient for an ECG and obtain an electrocardiogram. Students will learn to measure the peak flow rate and perform spirometry. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MAP101***MAP120 – MUSCULOSKELETAL SYSTEM AND MEDICATION ADMINISTRATION***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course introduces the student to the anatomy, physiology and medical terms associated with the Musculoskeletal, Integumentary and Sensory systems. Students will learn to identify the basics of drugs, including sources, uses, pharmacokinetics, and actions. They will also learn to solve medication-related math problems, and administer medications via various routes. Students will discuss medical emergencies such as diabetic emergencies, burns, poisonings, and be trained in BLS (basic life support) for the Health Care Provider. Finally, students will learn to prepare the exam room to assist in a physical exam, including performing vision and hearing screening tests. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MAP101***MAP130 – CLINICAL LAB TECHNIQUES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course introduces the student to the anatomy, physiology and medical terms associated with the Digestive, Urinary and Reproduction systems. Students will learn to examine and report on physical and chemical aspects of urine using CLIA-waived methods. They will also learn to assist providers in specialty examinations including but not limited to obstetrics, gynecology and pediatrics. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MAP101***MAP140 – LABORATORY AND SURGICAL PROCEDURES***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course introduces the student to the anatomy, physiology and medical terms associated with the Lymphatic, Immune, Nervous, and Endocrine systems. Students will learn the role of a medical assistant in caring for aging patients along with proper communication with the older adult. They will also learn proper specimen collection and transport in the physician's office laboratory, while performing a variety of CLIA-waived tests. The

student will learn the Medical Assistants role in minor surgeries, patient coaching, and nutrition. Students will learn general classifications of surgical instruments, sterilization, and surgical hand scrub. They will also understand the MA's role as a coach in promoting health maintenance and wellness. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MAP101***MAP150 – ADMINISTRATIVE MEDICAL OFFICE***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

Students will learn about the patient's health record, Telephone techniques, and scheduling appointments. A variety of electronic technologies used in the medical office will be discussed. In addition, students will work on their written communication and learn reception and daily operations of the office. This course introduces the student to life cycle of insurance billing and coding. They will learn the basics of health insurance; discuss traditional health insurance and different types of managed care models. Students will then continue the life cycle learning diagnostic and procedural coding basics. Then, continuing onto billing and reimbursement and finally accounting, collections and banking. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MAP101***MAP200 – MEDICAL INSURANCE AND BILLING***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This class introduces students to medical insurance and billing. Students will be introduced to various insurance's such as The Blue Plans, Private Insurance, Managed Care, Medicare, Medicaid and other state programs, TRICARE, Veterans' Health Care and Workers' Compensation. Students will have an understanding of the process of claims submission in the medical office, the follow-up process and the payment process. Finally, students will be introduced to billing in healthcare facilities such as Ambulatory Surgery centers and Hospital Outpatient and Inpatient Billing. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MAP101, MAP150***MAP210 – ELECTRONIC MEDICAL RECORDS***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course will prepare the student to understand basic computer principles and use electronic records in a medical practice. Electronic Health Records is designed to train future users of electronic health records programs to document patient exams, diagnosis, disorders, and coding. By the completion of this course the student will have the ability to understand and implement the electronic health records software, including data entry at the point of care, electronic coding from medical records, utilize advanced techniques to speed data entry, use the electronic health records to improve patient care, and understand the privacy and security of health records. Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MAP101, MAP150***MAP230 – MEDICAL CODING***120 Contact Hrs (60 Lecture, 60 Lab); 5.0 Credits*

This course is a study of the purpose, use and application of medical classification systems, nomenclatures and other terminologies, including International Classification of Diseases Coding. Emphasis is placed on the current version of the International Classification of Diseases

federal coding guidelines, coding conventions, and coding principles. Students will practice code assignments using various types of healthcare documentation (such as: inpatient, outpatient, emergency department, physician's office). Professional development exercises and seminars are also included in this course.

*Prerequisite(s): MAP101, MAP150***MAP300 – MEDICAL ASSISTING INTERNSHIP***160 Contact Hrs (160 Internship Hours); 3.5 Credits*

During the internship the student applies practical application and experiential learning opportunities using all skills learned in a real-life clinical setting prior to taking the certification/registry examination.

*Prerequisite(s): Successful completion of all courses (MAP101, MAP110, MAP120, MAP130, MAP140, and MAP150) must be completed prior to internship.***GEN130V – INTRODUCTION TO CRITICAL THINKING***45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course presents students with techniques to develop their critical thinking skills. Topics include the importance of language, ambiguity, structure of arguments and creative problem solving. Upon successful completion of this course students should be able to demonstrate an improvement in their ability to apply critical thinking skills to real world situations.

*Prerequisite(s): None***GEN180V – COLLEGE ALGEBRA***45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course focuses on algebraic concepts essential for success in the workplace and other courses. Using real world examples and applications, students practice fundamental operations with number systems, formulas, algebraic expressions and linear equations. This course also explores problems involving factoring, inequalities, exponents, radicals, linear equations, functions, quadratic equations and graphs. Skills for success in mathematics will be emphasized.

*Prerequisite(s): None***GEN190V – ENGLISH COMPOSITION I***45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

Students develop written communication skills, with emphasis placed on the principles of effective communication which includes understanding the writing process, analysis of readings, as can be applied personally and professionally.

*Prerequisite(s): None***GEN150V – ENVIRONMENTAL SCIENCE***45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course is designed to provide students with a basic scientific overview of how nature works and how things in nature are interconnected. This course explores the study of the earth's natural resources. Topics include the study of how air, water, soil, natural energy, and the minerals are critical and related parts of the earth's interconnect systems.

*Prerequisite(s): None***GEN292V – SPEECH COMMUNICATION***45 Contact Hrs (45 Lecture, 0 Lab); 3.0 Credits*

This course will enhance the student's understanding and appreciation of the uses of oral communication and will teach the skills needed to speak effectively in a variety of situations.

*Prerequisite(s): None*

**REMOVE the following program on page 8:**

## **Welding and Metal Fabrication Technology**

**WLD100C – CERTIFICATE PROGRAM**

*Lincoln College of Technology, Indianapolis, IN no longer offers this program.*

**EFFECTIVE OCTOBER 1, 2023**

**REVISE the first paragraph of the following policy on page 44:**

### **Make-Up**

Upon return to school following an absence, students are required to turn in any work that was due while they were absent in order to receive up to the original 100% credit. A reduction in credit for make-up work will be applied to all late submissions based on the following criteria:

- Up to 90% credit for all work turned in up to one week late from the date of your return.
- Up to 80% credit for all work turned in up to two weeks late from the date of your return.
- Any work turned in after two weeks late will receive a grade of 0%.

Availability for make-up on high stakes assessments (e. g. mid-terms and final exams) may be limited, and the date and time of make up on high stakes assessments must be agreed upon by faculty. Regardless of the timeframes referenced above, all work must be completed in a timely manner in order to process final grades, grade appeals and/or to resolve incomplete grades.

Any exceptions due to extenuating circumstances are managed at the discretion of the Director of Education and/or the Campus President. Documentation may be required to justify extenuating circumstances.

**REVISE the following policy on page 43:**

### **Attendance**

The technical nature of the training and graduate employability goals of the programs offered requires that students attend classes on a regular basis. Our expectation is that students will attend all sessions for courses in which they are registered. Class attendance is monitored daily commencing with the student's first official day of attendance and a student will be considered withdrawn from a course or courses when any of the following criteria are met:

- The fourteenth consecutive calendar day of absence (two weeks) with the exception of published holidays and breaks.
- Cumulative absences prevent the student's ability to master the course content during the remainder of the scheduled course, term, or semester as determined by the course syllabus.

Approved employment interviews (established per school policy) are not counted as absences for attendance purposes.

Students receiving funds from any state or federal agency may be subject to the additional attendance requirements of that specific agency.



A Pending Course Schedule (PCS) student status is a temporary period of non-attendance not to exceed a maximum of 60 calendar days. The status is intended to support student progression and is applied when a student has a course that is not available due to, but not limited to, interruption in their enrollment because of a course failure, a shift change, a leave of absence, or failure to meet graduation requirement. The PCS status is not included in the 150% maximum timeframe calculation.

*Note: Calendar day calculations include all days visible on a calendar without exception.*

**REVISE the first sentence of the second paragraph in the following policy on page 48:**

## **Withdrawals and Incomplete Grades**

An “I”ncomplete is given to students who do not complete a test or required course work.

**EFFECTIVE NOVEMBER 6, 2023**

**ADD the following policy to the GENERAL STUDENT INFORMATION section on page 40:**

## **Learning Resource Center**

At Lincoln, we are dedicated to providing students with learning resources that enhance their educational journey and career readiness. Our learning resource system includes a wealth of online tools and facilities. Central to this system is our Learning Resource Center (“LRC”) that offers students access to a vast collection of online databases covering hundreds of subjects that are available 24/7. These databases house a variety of digital materials, including eBooks, scholarly journals, market reports, dissertations, working papers, streaming videos, and electronic journals. Both our online and campus-based LRC offer a focused setting to enhance the overall learning experience.

**ADD the following policy to the ACADEMIC INFORMATION section on page 49:**

## **Independent Study**

In certain circumstances a student is unable to take a course at its scheduled time or a student might need a course to graduate that is not scheduled in the time remaining in his or her program. When this situation occurs, the school may authorize the student to take the course through independent study. In order to take a course through independent study, an approved plan must be signed by the applicable staff members at the school.

If the school grants the student permission to take the course through independent study, the student must agree in writing to the study plan including the syllabus that outlines the learning objectives, texts, course requirements, evaluation criteria, meeting dates, and examination dates for the course.

A student must meet the following conditions to take a course through independent study:

1. Successfully completed at least 50% of the credit hours required in the program;
2. Have an overall cumulative grade point average (CGPA) of at least 2.0;
3. Making satisfactory academic progress (SAP).

No more than 10% of a program offering is permitted to be delivered via independent study. Further, there may be some courses that do not lend themselves to independent studies. The school reserves the right to deny any student the ability to take a course through independent study.

**ADD the following policy to the ADMISSIONS section on page 33:**

## **Admission Procedures**

Persons desiring to make application for admission should contact the School directly, or speak with an Admissions Representative. Applicants must:

1. Be interviewed by an Admissions Representative or other member of the School staff.
2. Complete an Enrollment Agreement (Student Contract).
3. Submit information which may be required to determine individual qualifications by program such as, but not limited to, proof of high school diploma or equivalent.
4. Complete any required entrance examination or learner assessment, if applicable.

**REVISE the last bullet in the following policy on page 33:**

## **Criteria for Admission**

- Provide a fully executed Enrollment Agreement.

**ADD as the last paragraph to the following policy on page 48:**

## **Withdrawals and Incomplete Grades**

Should this effect the students expected graduation date, students are notified via the web-based student portal (**Lincoln's Student Portal**).

**REVISE the following policy on page 40:**

## **Official Student Communication**

Replace (**MyCampusLinc**) with (**Lincoln's Student Portal**)

**ADD the following policy to the GENERAL STUDENT INFORMATION section on page 40:**

## **Emergency Preparedness**

Emergency preparedness information can be obtained in the following link:

[https://www.lincolntech.edu/download/consumer/HS\\_ERP.pdf](https://www.lincolntech.edu/download/consumer/HS_ERP.pdf)

**EFFECTIVE JANUARY 2, 2024**

**REVISE the following policy in the CANCELLATION AND STATE REFUND POLICY section on page 36:**

## **STUDENT FEE, TECHNOLOGY FEE, BOOKS, TOOLS & UNIFORMS REFUND POLICY**

Students who cancel enrollment or withdraw after receiving books and supplies may return these items if they are in good condition within five (5) days following cancellation notice or twenty (20) days following date of withdrawal. Any refund due for student fees or technology fees will be prorated based on use.

**REVISE the second paragraph in the following policy on page 33:**

### **Introductory Period of Enrollment**

Students who choose not to continue their enrollment at Lincoln College of Technology during the introductory period, will be charged for all books, uniforms, tools, and equipment not returned in new condition to the school.

**REVISE the following policy in the FINANCIAL AID section on page 35:**

#### **LINCOLN BRIDGING THE GAP GRANT**

The Lincoln Bridging the Gap Grant is a need-based institutional grant awarded to eligible full-time students who have remaining unmet calculated financial need. Eligibility for this program is determined based on the following criteria:

- Confirmed enrollment in an approved program of study
- Completed FAFSA for the applicable award year with an official Student Aid Index (SAI)
- Acceptance of all available student aid from federal, state, and other sources.
- Remaining financial need for direct costs (tuition, fees, and housing, if applicable) greater than \$500 after all other sources of student aid have been exhausted, including Federal Direct Loans and Federal PLUS Loans.

The Lincoln Bridging the Gap Grant amount will vary depending on each applicant's calculated financial need. The grant is awarded in up to two disbursements per academic year. Should funding cease, the scholarship will no longer be offered, but those students already awarded will continue to receive the grant until completion of their program.

**ADD the following policy to the FINANCIAL AID section on page 35:**

#### **RELOCATION ASSISTANCE GRANT**

The Relocation Assistance Grant (previously called Pride Grant) is an institutional grant available to students who are relocating 50 miles or more to attend a Lincoln Tech Campus to assist with expenses related to Lincoln Tech-owned housing, either on- or off-campus. Each eligible student may apply for one grant with an award of up to \$1,000. The grant will be prorated over the entire length of his/her program. Eligibility for this program is determined based on the following criteria:

- Confirmed enrollment in an approved program of study.
- Completed FAFSA for the applicable award year with an official Student Aid Index (SAI).
- Must be relocating 50 miles or more to attend a Lincoln Tech campus

Should funding cease, the grant will no longer be offered, but those students already awarded will continue to receive the grant until completion of or withdrawal from their program.

**REVISE the fifth bullet in the FINANCIAL AID section on page 35:**

#### **FRIENDS AND FAMILY EDUCATION GRANT**

- Must start training program by December 31, 2024

**EFFECTIVE JANUARY 17, 2024**

**ADD the sentence below to the second paragraph of the following policy on page 39:**

## **Student Complaint / Grievance Procedure**

All formal complaints must be addressed to the Campus President in writing.

**ADD to the following policy on page 35:**

## **Scholarships**

### **High School Scholarship Program**

#### **General Information**

The High School Annual Scholarship Award Program is for High School Seniors graduating in 2024 who start school by December 31, 2024. The student must be in good standing with their high school at graduation and must earn a high school diploma in order to take advantage of any award money. A preliminary scholarship competition is conducted in the form of aptitude testing. On the basis of test results, semi-finalists are selected and invited to submit a portfolio. The top twenty semi-finalists with portfolios will be recognized and the top ten semi-finalists will return for an interview conducted by the scholarship committee comprised of volunteers representing business, industry, education and/or government not affiliated with LCT. This committee will evaluate each candidate on the basis of preliminary test results, professionalism, enthusiasm, personal conduct, and oral expression.

LCT will award applicants a \$500 scholarship to 2024 high school seniors who score between a 39-46 on the scholarship aptitude test. A \$1,000 scholarship will be awarded to 2024 high school seniors who score between a 47-55 on the scholarship aptitude test. Students can only receive one scholarship through this program. Students will not be able to combine scholarships awarded in the testing portion, semi-finalist, and finalist portion. The testing deadline for the \$500-\$1000 scholarship is December 31, 2024.

The semi-finalists who place 11th – 20th based on the portfolio will be awarded the following amounts: 11th – 13th Place = \$3,500 14th – 20th Place = \$2,500

The top-ten finalists will be interviewed by the scholarship committee and each finalist will be awarded only one of the following based on his/her performance: a \$10,000 scholarship (1 available); \$7,500 scholarship (9 available); \$3,500 scholarship (3 available); \$2,500 scholarship (7 available). Scholarships will be awarded by June 30, 2024.

#### **Portfolio Guidelines**

The student must prepare a one-page essay of no less than 300 words on why they wish to attend Lincoln College of Technology. In addition, they will need to submit three (3) letters of recommendation which highlight their character, work ethic, and passion for the industry. These letters may be from a teacher, counselor, employer, community leader, or professional friend. Family members may not be used as a reference. The portfolios will be judged on professionalism, presentation, and content by an independent individual. The portfolio submission deadline is May 17, 2024. No late portfolios will be considered.

#### **Finalist Award Breakdown**

<b>Total Awards</b>	<b>Number Awarded</b>
\$10,000	1
\$7,500	9
\$3,500	3
\$2,500	7



### **FINALIST SCHOLARSHIP AWARD AMOUNTS**

- 1- \$10,000 SCHOLARSHIP
  - 9- \$7,500 SCHOLARSHIPS
  - 3- \$3,500 SCHOLARSHIPS
  - 7- \$2,500 SCHOLARSHIPS
- \$500 – IF APTITUDE SCORE IS 39-46  
\$1,000 – IF APTITUDE SCORE IS 47-55

Students can only receive one scholarship through this program, students will not be able to combine scholarships awarded in the testing portion, semi-finalist, and finalist portion.

Students first score will be score of record of the aptitude test unless an incomplete test has been logged in the system. The second chance would only be warranted for a system outage or internet failure.

Students can receive any combined Lincoln Scholarships / Grant not to exceed \$3,000.

- If a student receives any single Lincoln scholarship / Grant exceeding \$3,000, that will be the only scholarship awarded, no other Lincoln Scholarship / Grant can be combined.
- Gap Grants, Pride Grants and Academic Leadership Scholarships are excluded from the \$3,000 cap.

All scholarships must be applied for within 30 days of the start (with the exception of the Leadership Scholarships).

**EFFECTIVE FOR START DATES BETWEEN OCTOBER 1, 2023 THROUGH OCTOBER 1, 2024**

**ADD to the following policy on page 35:**

## Scholarships

### Academic & Leadership Award Scholarship

#### Background:

Lincoln Technical Institute (Group of Schools) is honored to offer the Academic & Leadership Award to qualified applicants. This \$2,500 award will go to thirty (30) current students annually throughout Lincoln Educational Services group of schools who exhibit leadership qualities, both in their personal lives and in their school career.

#### Eligibility Requirements:

In order to apply for the Award, an eligible student must:

- Currently attend a Lincoln Tech (Group of Schools) program for a minimum of 30 days
- Complete the application
- Complete the essay
- Minimum GPA of 3.0
- Title IV students must complete the Free Application for Federal Student Aid (FAFSA)

The student who earns this award must maintain satisfactory academic progress. Only students that meet the qualifications listed above can apply for this award.

#### Award:

Thirty (30) awards will be available annually (15 awards in February & 15 awards in August), to eligible students who apply, each in the amount of \$2,500. The award will be prorated over the entire length of his/her program and is specifically intended to cover expenses related to tuition costs. The Lincoln Award Committee will review all applications and select a finalist.

	<u>Submission OPENS</u>	<u>Submissions CLOSES</u>	<u>Winner Announced</u>
1.	October 1, 2023	November 15, 2023	February 1, 2024
2.	April 1, 2024	May 15, 2024	August 1, 2024

#### Contact Requirements:

The student portal provides a link, only during submission dates, that will allow students to complete the application/essay portion online. If a student chose to include recommendations, they must be completed and ready to upload at the time of submission. The system will only allow one submission per student number.

*Note: Due to Veteran Affairs (VA) regulations, if the selected scholarship winner is also receiving VA educational benefits, we are obligated to inform the VA of this award. In some cases, fully funded VA beneficiaries may not receive any direct benefit from this award.*

**EFFECTIVE FOR ENROLLMENTS BETWEEN JANUARY 1, 2024 THROUGH DECEMBER 1, 2024**

**Add to the following policy on page 35:**

## **Scholarships**

### **American Hero and Single Parent Scholarship Programs**

#### **Purpose:**

Lincoln Scholarship Programs are designed to provide financial assistance to students who meet the criteria established below and want to enroll in one of the Lincoln Group of Schools\* for enrollments between January 1, 2024 through December 31, 2024. By offering the *American Hero* and *Single Parent* Scholarships to future students who are interested in vocational career training, Lincoln continues to show its commitment to helping students reach their goals as it has done since opening its first school in 1946.

#### **Eligibility Requirements\*\*:**

In order to apply for a Lincoln Scholarship, an eligible student must:

- Complete the application process to enroll;
- Complete the Free Application for Federal Student Aid (FAFSA);
- Enroll in the program of your choice by December 31, 2024; and
- Submit your Lincoln Scholarship application to the financial aid staff.

*American Hero Scholarship* applicants must submit proof of military service.

Those students awarded a scholarship must maintain satisfactory academic progress and also must attend the Lincoln Financial Literacy presentation within six weeks of enrollment. Only students that meet the qualifications listed above, and the admissions requirements in order to be considered an enrolled student, and who have demonstrated a financial need, can be awarded this scholarship.

#### **Scholarship Award:**

Each eligible student may apply for one scholarship with an award of \$1,000\*\*. The scholarship will be prorated over the entire length of his/her program. A Lincoln designee will make the final decision regarding the award.

Applications can be submitted any time prior to enrollment periods established by the school of your choice. Winners of the scholarship will be notified in writing by school administration. The notification will include the amount being awarded and start date for the program.

#### **Additional Scholarship Information:**

In order to be eligible for the scholarship, a student must enroll between January 1, 2024 and December 31, 2024. Applications must be submitted on or before December 31, 2024. The scholarship will not be awarded to any student who defers their enrollment past the requisite time period. The amount and number of scholarships offered by each campus can vary based on the number of applications. This award is a scholarship and does not require any form of repayment to any of the Lincoln Group of Schools\*.

These Scholarship programs can be suspended at any time. There would be no adverse impact on those students who were awarded a scholarship in the event that the Scholarship program was suspended.

Students can receive any combined Lincoln Scholarships / Grant not to exceed \$3,000.

- If a student receives any single Lincoln scholarship / Grant exceeding \$3,000, that will be the only scholarship awarded, no other Lincoln Scholarship / Grant can be combined.
- Gap Grants, Pride Grants and Academic Leadership Scholarships are excluded from the \$3,000 cap.

\*The Lincoln Group of Schools includes those schools under the names of Lincoln Technical Institute, Lincoln College of Technology, and Euphoria Institute of Beauty Arts and Sciences.

\*\*Recipients of the American Hero Scholarship may have their award applied to books and fees, if tuition is fully covered by other sources.

All scholarships must be applied for within 15 days of the start (with the exception of the Leadership Scholarships).

**EFFECTIVE FOR ENROLLMENTS BETWEEN JANUARY 1, 2024 THROUGH DECEMBER 1, 2024**

**Add to the following policy on page 35:**

**Scholarships****First Responder Scholarship Program****Purpose:**

The Lincoln First Responder Scholarship is designed to provide financial assistance to Emergency Responders and immediate family members who meet the criteria established below and want to enroll in a qualifying program of study at one of the Lincoln Group of Schools\* for enrollments between January 1, 2024 through December 31, 2024. By offering the Lincoln First Responder Scholarship to future students who are interested in vocational career training, Lincoln continues to show its commitment to helping students reach their goals as it has done since opening its first school in 1946.

**Eligibility Requirements:**

In order to apply for the Lincoln First Responder Scholarship, an eligible student must:

- Complete the application process to enroll;
- Provide proof of service documentation;
- Complete the Free Application for Federal Student Aid (FAFSA);
- Enroll in the program of your choice by December 31, 2024; and
- Submit your Lincoln First Responder Scholarship application to the financial aid staff.

***Scholarship recipients must attend the Lincoln Financial Literacy presentation within six weeks of enrollment.*** Only students that meet the qualifications listed above, and the admissions requirements in order to be considered an enrolled student, and who have demonstrated a financial need, can be awarded this scholarship.

**Scholarship Award:**

Each eligible student may apply for one First Responder scholarship with an award of \$1,000. The scholarship will be prorated over the entire length of his/her program. A Lincoln designee will make the final decision regarding the award. The total scholarship amount will be calculated and awarded in installments at the completion of each term/semester subject to the student maintaining good academic standings.

Any student can apply for the scholarship. Applications can be submitted any time prior to enrollment periods established by the school of your choice. Winners of the scholarship will be notified in writing by school administration. The notification will include the amount being awarded and start date for the program.

**Additional Scholarship Information:**

In order to be eligible for the scholarship, a student must enroll between January 1, 2024 and December 31, 2024. Applications must be submitted on or before December 31, 2024. The scholarship will not be awarded to any student who defers their enrollment past the requisite time period. The amount and number of scholarships offered by each campus can vary based on the number of applications. This award is a scholarship and does not require any form of repayment to any of the Lincoln Group of Schools\*.

This Scholarship program can be suspended at any time. There would be no adverse impact on those students who were awarded the scholarship in the event that the Scholarship program was suspended.

Students can receive any combined Lincoln Scholarships / Grant not to exceed \$3,000.

- If a student receives any single Lincoln scholarship / Grant exceeding \$3,000, that will be the only scholarship awarded, no other Lincoln Scholarship / Grant can be combined.
- Gap Grants, Pride Grants and Academic Leadership Scholarships are excluded from the \$3,000 cap.

\*The Lincoln Group of Schools includes those schools under the names of Lincoln Technical Institute, Lincoln College of Technology, and Euphoria Institute of Beauty Arts and Sciences. All scholarships must be applied for within 15 days of the start (with the exception of the Leadership Scholarships).

**Catalog Addendum**  
School Staff & Faculty  
Effective November 8, 2023**Campus Leadership****Brent Jenkins**, Campus President**Christine Joyce**, Director of Career Services**Andy Rahimi**, Director of Administrative Services**Kyle Spencer**, Director of Field Admissions**Dustin Sprouls**, Director of Field Admissions**Darrell Lashley**, Director of Admissions**Michelle Murdoch**, Director of Financial Aid**Marc Smith**, Academic Dean**Campus Staff****Roger Park**, Facilities Manager**Ian Wallace**, Network Systems Administrator**Education****Krista Clanin**, Education Supervisor**Doug Fowler**, Education Supervisor**Chris Ridener**, Education Supervisor**Megan Sage**, Registrar**Chad Watson**, Student Services Coordinator**Admissions****Patrick Kidwell**, Admissions Representative**James Smith**, Admissions Representative**Brian Siler**, Admissions Representative**Robert Oesterling**, Admissions Representative**Pamela Dixon**, Admissions Representative**Sammie Farmer**, Admissions Representative**Madeline Hernandez**, Admissions Facilitator**Valeria Jacobo**, Admissions Facilitator**Patricia Alexander-Canady**, Receptionist**Esmeralda Jimenez Bonilla**, Receptionist**Clarissa Vasquez Hernandez**, Receptionist**Terri Sanders**, Receptionist**Career Services****Lauren Riley**, Assistant Director of Career Services**Kimberly Vaughn**, Career Services Representative**Amy Carrillo**, Career Services Representative**Open**, Externship/Internship Coordinator**Financial Aid****Michaelanne Walling**, FA Advisor**Celeste Lawson-Lindsey**, FA Advisor**Derrick Shamblin**, FA Advisor**Business Office****Kimberly Hinesley**, Business Office Clerk**Ghatana Burden**, Business Office Clerk**Anthony Wisker**, Business Office Clerk**Faculty****Mike Brenner**, Automotive  
Lincoln College of Technology, Diploma**Bob Shutt**, Automotive  
9 years' Industry Experience**Aaron Blount**, Automotive  
Indiana State University, B.S.**Steve Burton**, Automotive  
ITT Technical Institute, Certificate**Douglas Garriott**, Automotive  
Lincoln College of Technology, A.A.S.**James Johnston**, Automotive  
Lincoln College of Technology, Diploma**Jerry King**, Automotive  
25 years' Industry Experience**Donovan Morgan**, Automotive  
Lincoln College of Technology, A.A.S.**Matthew Maher**, CNC  
12 years' Industry Experience**Frederick Lee**, CNC  
38 years' Industry Experience**Dean Cain**, Collision  
22 years' Industry Experience**Christopher Welch**, Collision  
31 years' Industry Experience**Damian Mahan**, Collision  
Lincoln College of Technology, A.A.S.**Chase Blackburn**, Diesel  
7 years' Industry Experience**Dwayne Cooper**, Diesel  
20 years' Industry Experience**Michael Lynch**, Diesel  
Lincoln College of Technology, A.A.S.**Michael Chaplin**, Electronic Systems  
ITT Technical Institute, A.A.S.**Douglas Gill**, Electronic Systems  
33 years' Industry Experience**Donald Owens**, Electronic Systems  
Sam's Technical Institute, Diploma



**Jackie McDuffey**, Electronic Systems  
ITT Technical Institute, A.A.S.

**Jeffrey Adams**, Electronic Systems  
Lincoln College of Technology, Diploma

**Jarrad Goris**, Electronic Systems  
ABC KY/IN, Apprenticeship Program

**Terrance Jefferson**, Electronic Systems  
Lincoln College of Technology, Diploma

**Kelly Officer**, Medical Assisting  
Professional Career Institute, Certificate

**Brooke Boudreaux**, Medical Assisting  
Virginia College, A.A.S.

**Tasha Demery**, Medical Assisting  
IUPUI, BA

**Janiece Blanchard**, Medical Assisting  
Kaplan College, Diploma

**Mike Roy**, Welding  
IVY Tech, A.A.S.

**Danny Thompson**, Welding  
Hobart School of Welding Technology,  
Certificate

**Derek Maze**, Welding  
10 years' Industry Experience

**Bryce Russell**, Welding  
6 years' Industry Experience.

**Douglas Edwards**, Welding  
USAF, Construction Inspector/Behnam-  
Blair Engineering, Certificate

**Reginald Sears**, Welding  
Midwest Technical Institute, Certificate

**Tyler Carter**, Welding  
Midwest Technical Institute, Diploma

**Ed Sandoval**, Welding  
Midwest Technical Institute, Diploma

**Sarah Altman**, General Education  
Purdue University, M.S.  
Marian College, B.A.

**David Altman**, General Education  
Hanover College, B.A.

**Timothy Davidson**, General Education  
Western Governor's University, M.A.  
Marian University, B.A.

**Maria Meyer**, General Education  
University of Phoenix, M.B.A.

**Krista Clanin**, General Education  
Indiana State, Education Specialist  
Indiana University, M.A.  
Butler University, M.R.  
Purdue University, B.A.

**Michael Sutton**, General Education  
Ball State University, M.S.  
Oxford Brookes University, B.S.

**Devyn Wolcott**, General Education  
San Jose State University, M.S.  
CSU Monterey Bay, B.S.

**Agnes Aramowicz**, General Education  
Lublin Catholic University, M.A.  
Lublin Catholic University, B.A.

**John Carpenter**, General Education  
University of Illinois, M.S.  
University of St. Francis, B.A.



**Schedule of Fees Catalog Addendum  
For all Enrollments on or after January 2, 2024**

<b>Automotive Service Technology - AUXX100</b>		
<i>1320 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	36,091.00
Books	\$	391.00
Uniforms	\$	74.00
Student Fee	\$	704.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,798.00
<b>Total</b>	<b>\$</b>	<b>39,208.00</b>

<b>Automotive Service Management Technology - AUXX100AS</b>		
<i>1545 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	39,746.00
Books	\$	608.00
Uniforms	\$	74.00
Student Fee	\$	729.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,798.00
<b>Total</b>	<b>\$</b>	<b>43,105.00</b>

<b>Collision Repair and Refinishing Technology - COL105BD</b>		
<i>1000 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	26,290.00
Books	\$	-
Uniforms	\$	74.00
Student Fee	\$	730.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,798.00
<b>Total</b>	<b>\$</b>	<b>29,042.00</b>

<b>Collision Repair and Refinishing Service Management - COL211BA</b>		
<i>1325 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	32,574.00
Books	\$	217.00
Uniforms	\$	74.00
Student Fee	\$	828.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,798.00
<b>Total</b>	<b>\$</b>	<b>35,641.00</b>

<b>Diesel and Truck Service Technology - MHTX100</b>		
<i>1320 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	36,091.00
Books	\$	508.00
Uniforms	\$	74.00
Student Fee	\$	704.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,798.00
<b>Total</b>	<b>\$</b>	<b>39,325.00</b>

<b>Diesel and Truck Service Management Technology - MHTX100AS</b>		
<i>1545 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	39,746.00
Books	\$	813.00
Uniforms	\$	74.00
Student Fee	\$	729.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,798.00
<b>Total</b>	<b>\$</b>	<b>43,310.00</b>

<b>CNC Machining and Manufacturing Technology - CMMT100D</b>		
<i>900 Hour Day or Afternoon Program</i>		
Tuition	\$	21,050.00
Books	\$	188.00
Uniforms	\$	86.00
Student Fee	\$	930.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,774.00
<b>Total</b>	<b>\$</b>	<b>24,178.00</b>

<b>Automotive Service Technology with Volkswagen - AUXX100VW</b>		
<i>1560 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	40,781.00
Books	\$	391.00
Uniforms	\$	135.00
Student Fee	\$	832.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,798.00
<b>Total</b>	<b>\$</b>	<b>44,087.00</b>

<b>Electrical and Electronic Systems Technology - ESTX100</b>		
<i>1200 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	27,990.00
Books	\$	610.00
Uniforms	\$	86.00
Student Fee	\$	900.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,648.00
<b>Total</b>	<b>\$</b>	<b>31,384.00</b>

<b>Electrical and Electronic Systems Technology Service Management - ESTX100AS</b>		
<i>1425 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	31,645.00
Books	\$	855.00
Uniforms	\$	86.00
Student Fee	\$	925.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,648.00
<b>Total</b>	<b>\$</b>	<b>35,309.00</b>

<b>Medical Assistant - MAPX100</b>		
<i>880 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	20,636.00
Books	\$	656.00
Uniforms	\$	127.00
Student Fee	\$	880.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	876.00
<b>Total</b>	<b>\$</b>	<b>23,325.00</b>

<b>Medical Assistant Technology - MAPX100AS</b>		
<i>1465 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	32,733.00
Books	\$	1,408.00
Uniforms	\$	127.00
Student Fee	\$	1,265.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	876.00
<b>Total</b>	<b>\$</b>	<b>36,559.00</b>

<b>Welding and Fabrication Technology with Pipe - WLDX200</b>		
<i>960 Hour Day, Afternoon or Evening Program</i>		
Tuition	\$	27,968.00
Books	\$	614.00
Uniforms	\$	200.00
Student Fee	\$	2,592.00
Technology Fee	\$	150.00
Estimated Cost of Tools	\$	1,519.00
<b>Total</b>	<b>\$</b>	<b>33,043.00</b>

Transcript Request Fee: \$10.00

2024 Calendar

Start/Graduation Dates

	AUXX100AS	AUXX100	AUXX100VW	CMMT100ADA	COL211BA04	COL105BD04	MHTX100AS	MHTX100	ESTX100	ESTX100AS	MAPX10004	MAPX100AS	WLDX20004
	Automotive Service Management Technology	Automotive Service Technology	Automotive Service Technology with Volkswagen	CNC Machining & Manufacturing Technology 10 Courses Total	Collision Repair and Refinishing Service Management	Collision Repair and Refinishing Technology	Diesel and Truck Service Management Technology	Diesel and Truck Service Technology	Electrical and Electronic Systems Technology	Electrical and Electronic Systems Technology Service Management	Medical Assistant	Medical Assistant Technology	Welding and Fabrication Technology with Pipe
	AAS Degree	Diploma	Diploma	Diploma	AAS Degree	Diploma	AAS Degree	Diploma	Diploma	AAS Degree	Diploma	AAS Degree	Diploma
Start Dates	Graduation Dates												
1/2/2024	7/30/2025	2/6/2025	4/16/2025	*no start	7/30/2025	12/19/2024	7/30/2025	2/6/2025	12/19/2024	6/26/2025	9/5/2024	6/26/2025	10/9/2024
2/6/2024	9/4/2025	3/13/2025	5/21/2025	*no start	9/4/2025	2/6/2025	9/4/2025	3/13/2025	2/6/2025	7/30/2025	10/9/2024	7/30/2025	11/13/2024
3/12/2024	10/8/2025	4/16/2025	6/26/2025	*no start	10/8/2025	3/13/2025	10/8/2025	4/16/2025	3/13/2025	9/4/2025	11/13/2024	9/4/2025	12/19/2024
4/15/2024	11/12/2025	5/21/2025	7/30/2025	*no start	11/12/2025	4/16/2025	11/12/2025	5/21/2025	4/16/2025	10/8/2025	12/19/2024	10/8/2025	2/6/2025
5/20/2024	12/18/2025	6/26/2025	9/4/2025	*no start	12/18/2025	5/21/2025	12/18/2025	6/26/2025	5/21/2025	11/12/2025	2/6/2025	11/12/2025	3/13/2025
6/24/2024	2/5/2026	7/30/2025	10/8/2025	6/11/2025	2/5/2026	6/26/2025	2/5/2026	7/30/2025	6/26/2025	12/18/2025	3/13/2025	12/18/2025	4/16/2025
8/5/2024	3/12/2026	9/4/2025	11/12/2025	*no start	3/12/2026	7/30/2025	3/12/2026	9/4/2025	7/30/2025	2/5/2026	4/16/2025	2/5/2026	5/21/2025
9/9/2024	4/15/2026	10/8/2025	12/18/2025	*no start	4/15/2026	9/4/2025	4/15/2026	10/8/2025	9/4/2025	3/12/2026	5/21/2025	3/12/2026	6/26/2025
10/14/2024	5/20/2026	11/12/2025	2/5/2026	*no start	5/20/2026	10/8/2025	5/20/2026	11/12/2025	10/8/2025	4/15/2026	6/26/2025	4/15/2026	7/30/2025
11/18/2024	6/25/2026	12/18/2025	3/12/2026	*no start	6/25/2026	11/12/2025	6/25/2026	12/18/2025	11/12/2025	5/20/2026	7/30/2025	5/20/2026	9/4/2025

Lincoln College of Technology Indianapolis, IN 2024 Student Breaks	
Holiday/ Break	Dates
New Year's Day	1/1/2024
MLK Day	1/15/2024
President’s Day	2/19/2024
Memorial Day	5/27/2024
Juneteenth	6/19/2024
4th of July	7/4/2024
Summer Break	7/29/2024-8/2/2024
Labor Day	9/2/2024
Thanksgiving Break	11/28/2024 - 11/29/2024
Winter Break	12/20/2024 - 1/3/2025

Hours of Attendance			
Program Group	Morning	Afternoon	Evening
Auto	(M-Th) 7.30a-11.45a	M-Th 12.30p-4.45p	(M-Th) 5.30p-9.45p
Diesel	(M-Th) 7.30a-11.45a	M-Th 12.30p-4.45p	
Collision	(M-Th) 8a-12.15p	(M-Th) 1p-5.15p	
EEST	(M-Th) 8a-12.15p	(M-Th) 1p-5.15p	(M-Th) 6p-10.15p
MA	(M-Th) 8a-12.15p	(M-Th) 1p-5.15p	(M-Th) 6p-10.15p
Welding	(M-Th) 7.30a-11.45a	M-Th 12.30p-4.45p	(M-Th) 5.30p-9.45p
CNC	(M-F) 8a-12.30p	(M-F) 1p-5.30p	