COMMUNITY COLLEGE OF PHILADELPHIA

Proposed Program Revision

Name of Program	Automotive Technology – Automotive Service Technology Option
Writer(s) of this Proposal	Kevin Bradley
Facilitator	Amy Birge
Effective Semester	Fall 2016
Date	January 20, 2016

I. Description of and Rationale for Revision

Since1995, the Program's goal was to provide entry-level vocational education and training in diagnosing and repairing cars and light trucks. The Program was built on the premise of direct-to-work career preparation into jobs that pay a sustainable wage. The last AT program revision was in 2012, based on recommendations from National Automotive Technicians Education Foundation (NATEF). Program revisions were made to be more in sync with advances in automotive technologies of the time, such as the development of hybrid and alternative fuel vehicles that are now commonplace and available to everyday consumers. The goal of the AT program is to continually deliver practical education and training based on current industry demands, hence the need for AT Program revisions today.

This proposed revision to the AT Service Technology Program includes significant changes to the existing program. The purpose of these changes is to better align the course curriculum with trending industry demands, to increase potential employment opportunities for Program participants, and to support the relatively few students (17%, according to the transfer data included in the 2014 audit) who transfer to four year institutions.

The overall program changes include:

- Increasing contact credit hours for AT 100 from two to three credit hours.
- Requiring AT 210: Customer Service, formally an elective, for degree completion.
- Expand the general education Natural Science requirement from PHYS 105 or STS 101 or CHEM 101 to include EASC 111 or CHEM 103
- Expanding the Mathematics general education requirement to include higher or alternative Math courses
- Increasing the program's contact credit hours from sixty two to sixty five.
- Deleting three program learning outcomes
- Adding one program learning outcome
- Changing the name of the program from Automotive Technology — Automotive Service Technology Option to Automotive Technology

II. Changes to Courses and Increase in Credit Hours

AT 100 increasing from two to three credit hours: AT 100: Introduction to Automotive Technology, a foundational course in the program, is currently being revised to include new topics, such as technician training, online service guides and research methods, updated safety procedures, precision measurement, basic fabrication skills, and used car preparation. To accommodate these new topics, AT 100 will increase from 2 credit hours to 3.

Adding AT 210 as a required course: AT 210: Customer Service Techniques is an essential part of the AT program. Industry data suggest that students must learn and acquire the customer service skills that will enable them to enter, develop, and thrive in the craft and industry that they have chosen to pursue. Area vocational technical schools in our region, such as Universal Technical Institute and Lincoln Tech offer similar service management courses as part of their automotive technology program curriculum.

Expanding the Natural Science requirement from PHYS 105 or STS 101 or CHEM 101 to include EASC 111 or CHEM 103: Given the oils, chemicals, and solvents used in the automotive industry, CHEM 103: General Chemistry I and EASC 111: Environmental Conservation will also provide Auto Tech students with relevant science content.

Expanding the Mathematics general education requirement to include higher or alternative Math courses: The change in the catalog grid clarifies the options for students who may want to take college-level Math courses other than algebra, including MATH 123: Mathematical Principles I, MATH 137: Geometry for Design, and higher Math courses. Course addenda for AT 221 and AT 261 (which currently require FNMT 118 as a co-requisite) reflecting this change accompany this proposal.

Increasing the credit hours from 62 to 65: Community College of Philadelphia prides itself on being a cornerstone institution that offers students the best value for the dollar to do more and get more without having to stretch their budgets and schedules in a way that other institutions would force them to do. Similar institutions offer programs in Automotive Technology but require up to fourteen credits more to graduate. Essentially, we are improving our program and improving the profile of our students by increasing the credit hours within the program, and we are still the best value in the region. Please see the **Appendix** for more information.

III. Supporting Data

Support for Making AT 210 a Required Course in the Curriculum:

Volvo Motors Personalization Pilot Program: Industry data suggests that repair service facilities are using a more personal / concierge platform to gain customer retention and loyalty. With this comes a change in the role of technicians, such that they will become more dynamic in the service selling process.

https://www.media.volvocars.com/global/en-gb/media/pressreleases/155208/volvo-cars-announces-new-global-marketing-strategy

Bureau of Labor Statistics: Data related to Occupational Outlook for Technicians and Mechanics suggest customer service skill sets are required to become proficient automotive technicians in today's economy.

http://www.bls.gov/ooh/installation-maintenance-and-repair/automotive-service-technicians-and-mechanics.htm

http://www.bls.gov/ooh/installation-maintenance-and-repair/automotive-service-technicians-and-mechanics.htm#tab-4

CCP Advisory Committee

Over the past two years, industry professionals of the CCP advisory committee have made it clear that employers are looking for a better blend of technical and soft skills from technicians and management trainees. It is also clear that strong communication skills, coupled with technical skills, are critical to any technician's career path promotion. It will increase other potential employment opportunities, such as service managers, service writers, shop foremen, or even shop owners. (Academically Speaking@CCP, January, 2015, page 5.)

http://path.ccp.edu/assessment/assets/pdfs/In_the_spotlight/Academically_Speaking_@CCP_January_2015.pdf

Please see the **Appendix** for more information.

IV. Program Learning Outcomes

We propose removing three program learning outcomes and including one additional outcome. State and Emission Inspector certifications are taken and paid for by the students after graduation, and the ASE certifications cannot be earned until the student has two years of work experience, and both affect students' employment, so the last three outcomes cannot be assessed. The requirement of AT 210 necessitates an additional program learning outcome regarding customer service.

Current Program Learning Outcomes for Automotive Service Technology

Upon completion of this program graduates will be able to:

- Apply a basic foundation in theory, maintenance, diagnosis and repair of automotive systems.
- Integrate and analyze online service data, written repair material and technical service bulletins to repair and service a vehicle.
- Demonstrate proficiency in the use of specialized automotive service tools, electronic diagnostic equipment and basic hand tools.
- Demonstrate ethical behavior, professionalism and the ability to work as a team.
- Obtain Pennsylvania state emissions and mechanical safety licenses.
- Achieve ASE certifications in all eight automotive service areas.

- Obtain employment in the automotive service industry.

Proposed Program Learning Outcomes for Automotive Technology:

Upon completion of this program graduates will be able to:

- Apply a basic foundation in theory, maintenance, diagnosis and repair of automotive systems.
- Integrate and analyze online service data, written repair material and technical service bulletins to repair and service a vehicle.
- Demonstrate proficiency in the use of specialized automotive service tools, electronic diagnostic equipment and basic hand tools.
- Demonstrate ethical behavior, professionalism and the ability to work as a team.
- ~~Obtain Pennsylvania state emissions and mechanical safety licenses.~~
- ~~Achieve ASE certifications in all eight automotive service areas.~~
- ~~Obtain employment in the automotive service industry.~~
- Demonstrate the ability to communicate with internal staff and external customers during the automotive service repair process in a responsible and effective manner.

V. Current Catalog Page

Automotive Technology - Automotive Service Technology Option

The Automotive Service Technology curriculum leads to an Associate in Applied Science (A.A.S.) degree. As the automotive industry has undergone a parts and service revolution, the increased complexity of the modern automobile has created a demand for highly skilled, technologically advanced automotive professionals.

The Automotive Service Technology Option prepares students to work as mechanics, safety inspectors and shop supervisors. The skills courses provide experience with the most modern diagnostic and repair equipment. The general education courses are transferable to some baccalaureate degree programs in engineering and vocational education. Graduates are also prepared to take the National Institute of Automotive Service Excellence Certification examinations. This program is certified by the National Automotive Technicians Education Foundation (NATEF).

Student Learning Outcomes:
Upon completion of this program graduates will be able to:

- Apply a basic foundation in theory, maintenance, diagnosis and repair of automotive systems.
- Integrate and analyze online service data, written repair material and technical service bulletins to repair and service a vehicle.
- Demonstrate proficiency in the use of specialized automotive service tools, electronic diagnostic equipment and basic hand tools.
- Demonstrate ethical behavior, professionalism and the ability to work as a team.
- Obtain Pennsylvania state emissions and mechanical safety licenses.
- Achieve ASE certifications in all eight automotive service areas.
- Obtain employment in the automotive service industry.

Option Entry Requirements:
Students interested in automotive fields may enroll in this curriculum. Students must take College placement tests prior to or at the time of entry in order to receive correct course placement. If needed, students must complete developmental work in English and mathematics as part of their degree program.

Program of Study and Graduation Requirements:
To qualify for the A.A.S. degree in Automotive Service Technology, a student must complete a minimum of 62 credits as prescribed and attain a grade point average of 2.0 ("C" average).

Automotive Service Technology Option Course Sequence

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
First Semester			
AT 100 - Introduction to Automotive Technology		2	
AT 111 - Automotive Steering and Suspension	AT 100, which may be taken concurrently	4	
AT 121 - Automotive Electricity and Electronics	AT 100, which may be taken concurrently	3	
AT 181 - Automotive Engine Mechanical Repair	AT 100, which may be taken concurrently	4	
ENGL 101 - English Composition I		3	ENGL 101
Second Semester			
CIS 103 - Applied Computer Technology		3	Tech Comp
AT 131 - Automotive Manual Transmissions	AT 100, which may be taken concurrently	4	
AT 150 - Automotive Braking Systems	AT 100, which may be taken concurrently	2	
FNMT 118 - Intermediate Algebra		3	Mathematics
ENGL 102 - The Research Paper	ENGL 101 with a grade of "C" or better	3	ENGL 102, Info Lit
Summer Session II			
AT 221 - Advanced Automotive Electrical Systems	AT 121, FNMT 118 or MATH 118, which may be taken concurrently	4	
Third Semester			
AT 250 - Advance Braking Systems and Controls	AT 121, AT 150	2	
AT 261 - Engine Performance and Diagnosis	AT 221, FNMT 118 or MATH 118	4	
AT 271 - Air Conditioning and Heating Systems	AT 121	3	
Social Science Elective		3	
PHYS 105 - Survey of Physics or STS 101 - Intro to Science, Technology and Society or CHEM 101 - General Chemistry		4	Natural Science
Fourth Semester			
AT 241 - Automatic Transmissions and Transaxles	AT 221, AT 131	4	
AT 281 - Advanced Engine Performance and Diagnosis	AT 221, AT 261	4	
Humanities Elective		3	Humanities

AT 289 - Automotive Technology Internship* or	AT 111, AT 121, AT 181, AT 250, AT 261, AT 271 and department head approval	2	
AT 210 - Customer Service Techniques*	AT 121	3	
Minimum Credits Needed to Graduate: 62			

General Education Requirements

All General Education requirements are met through required courses (as indicated above) except for the **Writing Intensive** requirement, the **Interpretive Studies** requirement and the **American/Global Diversity** requirement. Therefore, in order to graduate, students in this program must choose one course that is designated **Writing Intensive**, one course that is designated Interpretive Studies and one course that is designated **American/Global Diversity**. The same course may be used to fulfill more than one of these requirements. View the courses that fulfill all degree requirements and receive a more detailed explanation of the College's general education requirements to help in your selection.

* These courses are highly recommended but not required for graduation.

VI. Proposed Catalog Page

Automotive Technology

The Automotive Technology program leads to an Associate in Applied Science (A.A.S.) degree. As the automotive industry has undergone a parts and service revolution, the increased complexity of the modern automobile has created a demand for highly skilled, technologically advanced automotive professionals.

The Automotive Technology program prepares students to work as mechanics, safety inspectors and shop supervisors. The skills courses provide experience with the most modern diagnostic and repair equipment. The general education courses are transferable to some baccalaureate degree programs in engineering and vocational education. Graduates are also prepared to take the National Institute of Automotive Service Excellence Certification examinations. This program is certified by the National Automotive Technicians Education Foundation (NATEF).

Student Learning Outcomes:
Upon completion of this program graduates will be able to:

- Apply a basic foundation in theory, maintenance, diagnosis and repair of automotive systems.
- Integrate and analyze online service data, written repair material and technical service bulletins to repair and service a vehicle.
- Demonstrate proficiency in the use of specialized automotive service tools, electronic diagnostic equipment and basic hand tools.
- Demonstrate ethical behavior, professionalism and the ability to work as a team.
- Demonstrate the ability to communicate with internal staff and external customers during the automotive service repair process in a responsible and effective manner.

Entry Requirements: Students interested in automotive fields may enroll in this curriculum. New students are normally required to take the College's placement test at their time of entry. Students who are identified as needing developmental course work must satisfactorily complete the appropriate English and mathematics courses as part of the certificate.

Program of Study and Graduation Requirements:
To qualify for the A.A.S. degree in Automotive Technology, a student must complete a minimum of 65 credits as prescribed and attain a grade point average of 2.0 ("C" average).

Automotive Service Technology Option Course Sequence

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
First Semester			
AT 100 - Introduction to Automotive Technology		3	
AT 111 - Automotive Steering and Suspension	AT 100, which may be taken concurrently	4	

AT 121 - Automotive Electricity and Electronics	AT 100, which may be taken concurrently	3	
AT 181 - Automotive Engine Mechanical Repair	AT 100, which may be taken concurrently	4	
ENGL 101 - English Composition I		3	ENGL 101
Second Semester			
CIS 103 - Applied Computer Technology		3	Tech Comp
AT 131 - Automotive Manual Transmissions	AT 100, which may be taken concurrently	4	
AT 150 - Automotive Braking Systems	AT 100, which may be taken concurrently	2	
FNMT 118 - Intermediate Algebra or MATH 123 - Mathematical Principles I or MATH 137 - Geometry for Design (or higher Math)		3	Mathematics
ENGL 102 - The Research Paper	ENGL 101 with a grade of "C" or better	3	ENGL 102, Info Lit
Summer Session II			
AT 221 - Advanced Automotive Electrical Systems	Prerequisite: AT 121 Corequisite: FNMT 118 (or higher Math)	4	
Third Semester			
AT 250 - Advance Braking Systems and Controls	AT 121, AT 150	2	
AT 261 - Engine Performance and Diagnosis	AT 221	4	
AT 271 - Air Conditioning and Heating Systems	AT 121	3	
Social Science Elective		3	
Choose one Natural Science Course: PHYS 105 - Survey of Physics or STS 101 - Intro to Science Technology and Society or CHEM 101 - General Chemistry or CHEM 103 - General Chemistry I or EASC 111 - Environmental Conservation		3/4	Natural Science
Fourth Semester			
AT 241 - Automatic Transmissions and Transaxles	AT 221, AT 131	4	

AT 281 - Advanced Engine Performance and Diagnosis	AT 221, AT 261	4	
Humanities Elective		3	Humanities
AT 210 - Customer Service Techniques	AT 121	3	
AT 289 - Automotive Technology Internship*	AT 111, AT 121, AT 181, AT 250, AT 261, AT 271 and department head approval	2	
Minimum Credits Needed to Graduate: 65			

General Education Requirements

All General Education requirements are met through required courses (as indicated above) except for the **Writing Intensive** requirement, the **Interpretive Studies** requirement and the **American/Global Diversity** requirement. Therefore, in order to graduate, students in this program must choose one course that is designated **Writing Intensive**, one course that is designated Interpretive Studies and one course that is designated **American/Global Diversity**. The same course may be used to fulfill more than one of these requirements. View the courses that fulfill all degree requirements and receive a more detailed explanation of the College's general education requirements to help in your selection.

* AT 289 is highly recommended but not required for graduation.

VII. Current Curriculum Map

COURSES	PROGRAM STUDENT LEARNING OUTCOMES						
	Apply a basic foundation in theory, maintenance, diagnosis and repair of automotive systems.	Integrate and analyze online service data, written repair material and technical service bulletins to repair and service a vehicle.	Demonstrate proficiency in the use of specialized automotive service tools, electronic diagnostic equipment and basic hand tools.	Demonstrate ethical behavior, professionalism and the ability to work as a team.	Obtain Pennsylvania state emissions and mechanical safety licenses.	Achieve ASE certifications in all eight automotive service areas.	Obtain employment in the automotive service industry.
AT 100 - Introduction to Automotive Tech	**I**	**I**	**I**	**I**	**I**	**I**	**I**
AT 111 - Automotive Steering and Suspension	**R**	**R**	**R**	**R**	**R**	**R**	**R**
AT 121 - Automotive Electricity and Electronics	**R**	**R**	**R**	**R**	**R**	**R**	**R**
AT 181 - Automotive Engine Mechanical Repair	**R**	**R**	**R**	**R**	**R**	**R**	**R**
AT 131 - Automotive Manual Transmissions	**R,M**	**R,M**	**R,M**	**R,M**	**R,M**	**R,M**	**R,M**
AT 150 - Automotive Braking Systems	**R**	**R**	**R**	**R**	**R**	**R**	**R**
AT 221 - Advanced Automotive Electrical Systems	**M**	**M**	**M**	**M**	**M**	**M**	**M**
AT 250 - Advance Braking Systems and	**M**	**M**	**M**	**M**	**M**	**M**	**M**

Controls							
AT 261 - Engine Performance and Diagnosis	**R**	**R**	**R**	**R**	**R**	**R**	**R**
AT 271 - Air Conditioning and Heating Systems	**R,M**	**R,M**	**R,M**	**R,M**	**R,M**	**R,M**	**R,M**
PHYS 105 - Survey of Physics or CHEM 101 - General Chemistry or STS 101 - Intro to Science, Technology & Society	**I,R**	**R**					
AT 241 - Automatic Transmissions and Transaxles	**R,M**	**R,M**	**R,M**	**R,M**	**R,M**	**R,M**	**R,M**
AT 281 - Advanced Engine Performance & Diagnosis	**M**	**M**	**M**	**M**	**M**	**M**	**M**
AT 289 - Automotive Technology Internship or AT 210 - Customer Service Techniques	**M**	**M**	**M**	**M**	**M**	**M**	**M**

VIII. Proposed Curriculum Map

Curriculum Map: Automotive Technology Option A.A.S. Degree

COURSES	PROGRAM STUDENT LEARNING OUTCOMES				
	Apply a basic foundation in theory, maintenance, diagnosis and repair of automotive systems.	Integrate and analyze online service data, written repair material and technical service bulletins to repair and service a vehicle.	Demonstrate proficiency in the use of specialized automotive service tools, electronic diagnostic equipment and basic hand tools.	Demonstrate ethical behavior, professionalism and the ability to work as a team.	Demonstrate the ability to communicate with internal staff and external customers during the automotive service repair process in a responsible and effective manner.
AT 100: Introduction to Automotive Technology	**I**	**I**	**I**	**I**	**I**
AT 111: Automotive Steering and Suspension	**R**	**R**	**R**	**R**	
AT 121: Automotive Electricity and Electronics	**R**	**R**	**R**	**R**	
AT 181: Automotive Engine Mechanical Repair	**R**	**R**	**R**	**R**	
AT 131: Automotive Manual Transmissions	**R, M**	**R, M**	**R, M**	**R, M**	
AT 150: Automotive Braking Systems	**R**	**R**	**R**	**R**	
AT 221: Advanced Automotive Electrical Systems	**M**	**M**	**M**	**M**	

AT 250: Advance Braking Systems and Controls	**M**	**M**	**M**	**M**	
AT 261: Engine Performance and Diagnosis	**R**	**R**	**R**	**R**	
AT 271: Air Conditioning and Heating Systems	**R, M**	**R, M**	**R, M**	**R, M**	
PHYS 105: Survey of Physics or CHEM 101: General Chemistry or STS 101: Intro to Science, Technology & Society	**I, R**	**R**			
AT 210: Customer Service Techniques					**R, M**
AT 241: Automatic Transmissions and Transaxles	**R, M**	**R, M**	**R, M**	**R, M**	
AT 281: Advanced Engine Performance & Diagnosis	**M**	**M**	**M**	**M**	

Appendix

U.S. Department of Labor
Bureau of Labor Statistics

OCCUPATIONAL OUTLOOK HANDBOOK

How to Become an Automotive Service Technician or Mechanic About this section

Auto mechanics use specialized tools and equipment to make repairs.

A high school diploma or the equivalent is typically the minimum requirement for someone to work as an automotive service technician or mechanic. Because automotive technology is becoming increasingly sophisticated, some employers prefer automotive service technicians and mechanics who have completed a formal training program in a postsecondary institution. Industry certification is usually required once the person is employed.

Education

A high school diploma or the equivalent is typically the minimum requirement for someone to work as an automotive service technician or mechanic. High school courses in automotive repair, electronics, computers, mathematics, and English provide a good background for prospective service technicians. However, high school graduates often need further training to become fully qualified.

Completing a vocational or other postsecondary training program in automotive service technology is considered the best preparation for entry-level positions. Programs usually last 6 months to a year and provide intensive career preparation through classroom instruction and hands-on practice. Short-term certificate programs in a particular skill are also available.

Some service technicians get an associate's degree. Courses usually include basic mathematics, computers, electronics, and automotive repair. Some programs add classes in customer service, English, and other necessary skills.

Various automobile manufacturers and dealers sponsor associate's degree programs. Students in these programs typically spend alternating periods attending classes full time and working full time in service shops under the guidance of an experienced technician.

Training

Most service technicians must complete on-the-job training.

How long it takes a new service technician to become fully qualified in the occupation depends on the person's educational background. A period of 2 to 5 years is typical. It then takes an

additional 1 to 2 years of experience for service technicians to become familiar with all types of repairs.

New workers generally start as trainee technicians, technicians' helpers, or lubrication workers and gradually acquire and practice their skills by working with experienced mechanics and technicians.

Licenses, Certifications, and Registrations

The U.S. Environmental Protection Agency (EPA) requires all technicians who buy or work with refrigerants to be licensed in proper refrigerant handling. No formal test preparation is required, but many trade schools, unions, and employer associations offer training programs designed for the EPA exam.

Certification from the National Institute for Automotive Service Excellence is the standard credential for service technicians. Certification demonstrates competence and usually brings higher pay. Many employers require their service technicians to become certified.

Certification is available in eight different areas, including automatic transmission/transaxle, brakes, electrical/electronic systems, engine performance, engine repair, heating and air-conditioning, manual drive train and axles, and suspension and steering.

For each area, technicians must have at least 2 years of experience (or relevant schooling and 1 year of experience) and pass an exam. To become a Master Automobile Technician, technicians must pass all eight exams.

Important Qualities

Customer-service skills. Service technicians must discuss automotive problems—along with options to fix them—with their customers. Because workers may depend on repeat clients for business, they must be courteous, good listeners, and ready to answer customers' questions.

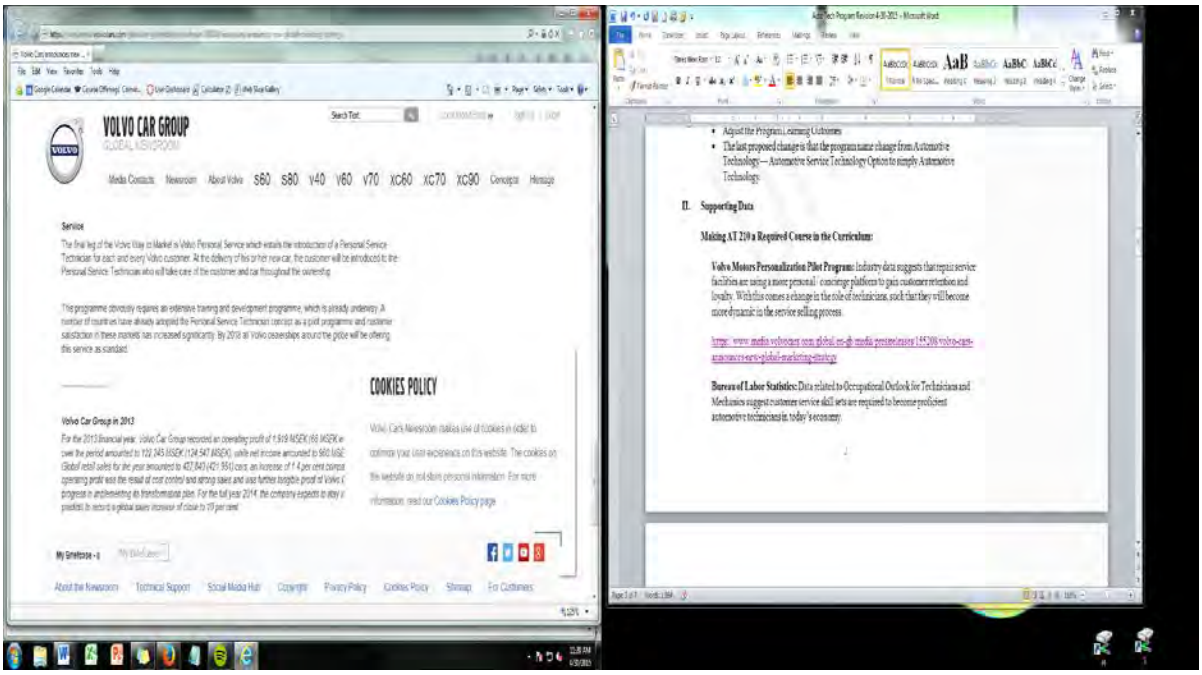
Automotive service technicians and mechanics explain to clients the repairs done on their vehicles.

Detail oriented. Mechanical and electronic malfunctions are often due to misalignments or other easy-to-miss causes. Service mechanics must, therefore, account for such details when inspecting or repairing engines and components.

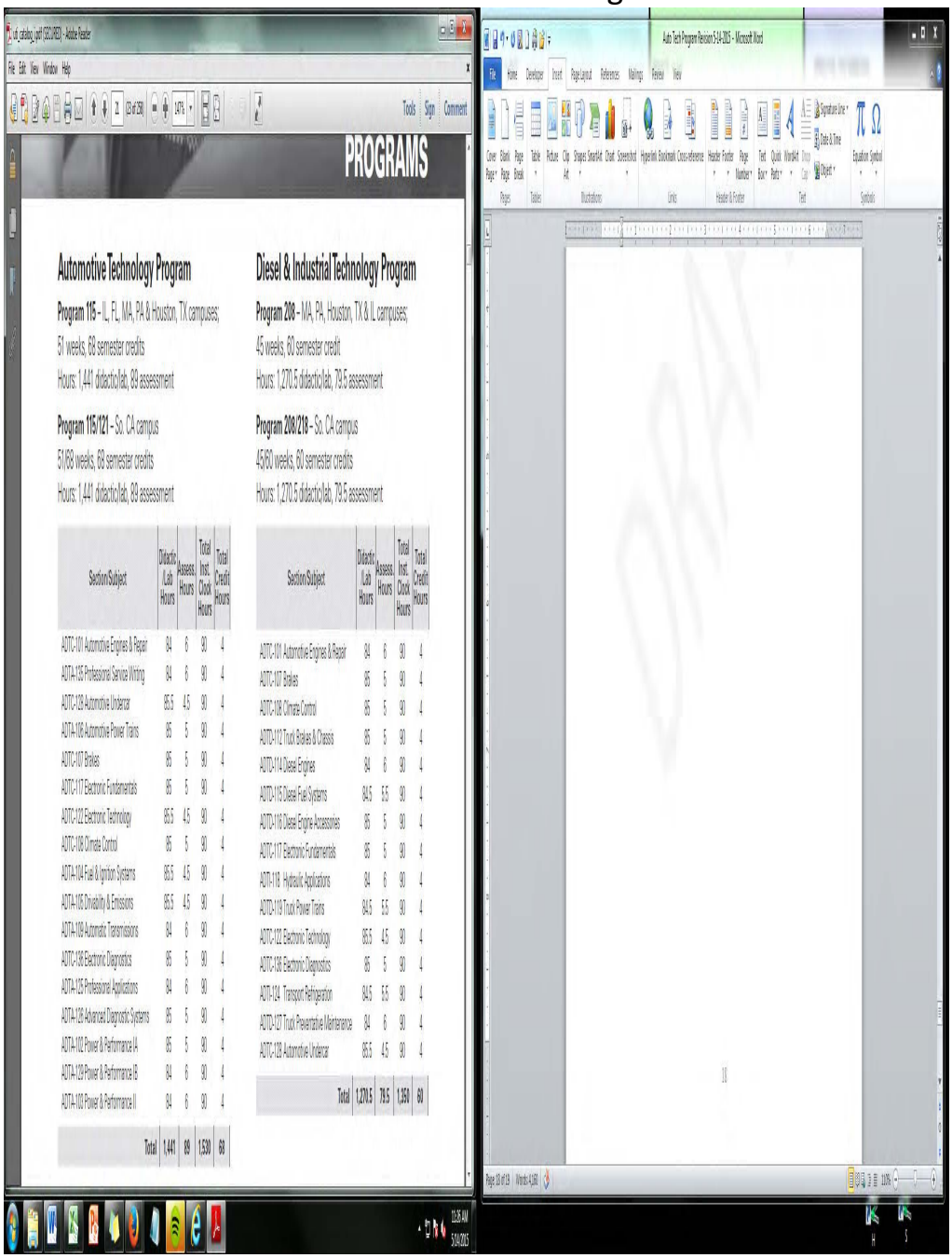
Dexterity. Many tasks that service technicians do, such as disassembling engine parts, connecting or attaching components, and using handtools, require a steady hand and good hand–eye coordination.

Mechanical skills. Service technicians must be familiar with engine components and systems and know how they interact with each other. They often must take apart major parts for repairs and be able to put them back together properly.

Troubleshooting skills. Service technicians must be able to use diagnostic equipment on engine systems and components in order to identify and fix problems in increasingly complicated mechanical and electronic systems. They must be familiar with electronic control systems and the appropriate tools needed to fix and maintain them.


VOLVO CAR GROUP
Service
COOKIES POLICY
Volvo Car Group in 2013
Media Contacts
Newsroom
About Volvo
S60
S80
V40
V60
V70
XC60
XC70
XC90
Concepts
Homepage
About the Newsroom
Technical Support
Social Media Hub
Copyright
Privacy Policy
Cookies Policy
Sitemap
For Customers
Adopt the Program Learning Outcomes
The last proposed change is that the program name change from Automotive Technology — Automotive Service Technology Option to simply Automotive Technology.
II. Supporting Data
Making AT 210 a Required Course in the Curriculum:
Volvo Motors Personalization Pilot Program: Industry data suggests that repair service facilities are using a more personal concierge platform to gain customer retention and loyalty. With this comes a change in the role of technicians, such that they will become more dynamic in the service selling process.
Bureau of Labor Statistics: Data related to Occupational Outlook for Technicians and Mechanics suggest customer service skill sets are required to become proficient automotive technicians in today's economy.

Universal Technical Institute Course Catalog 2015-2016



PROGRAMS

Automotive Technology Program

Program 115 - IL, FL, MA, PA & Houston, TX campuses;
51 weeks; 68 semester credits
Hours: 1,441 didactic/lab; 89 assessment

Program 115/121 - So. CA campus
51/68 weeks; 68 semester credits
Hours: 1,441 didactic/lab; 89 assessment

Section/Subject	Didactic/Lab Hours	Assess. Hours	Total Inst. Clock Hours	Total Credit Hours
AUTC-101 Automotive Engines & Repair	84	6	90	4
AUTA-105 Professional Service Writing	84	6	90	4
AUTC-120 Automotive Undercar	85.5	4.5	90	4
AUTA-106 Automotive Power Trains	85	5	90	4
AUTC-107 Brakes	85	5	90	4
AUTC-117 Electronic Fundamentals	85	5	90	4
AUTC-122 Electronic Technology	85.5	4.5	90	4
AUTC-108 Climate Control	85	5	90	4
AUTA-114 Fuel & Ignition Systems	85.5	4.5	90	4
AUTA-116 Driveability & Emissions	85.5	4.5	90	4
AUTA-109 Automatic Transmissions	84	6	90	4
AUTC-130 Electronic Diagnostics	85	5	90	4
AUTA-125 Professional Applications	84	6	90	4
AUTA-128 Advanced Diagnostic Systems	85	5	90	4
AUTA-102 Power & Performance IA	85	5	90	4
AUTA-103 Power & Performance IB	84	6	90	4
AUTA-100 Power & Performance II	84	6	90	4
Total	1,441	89	1,530	68

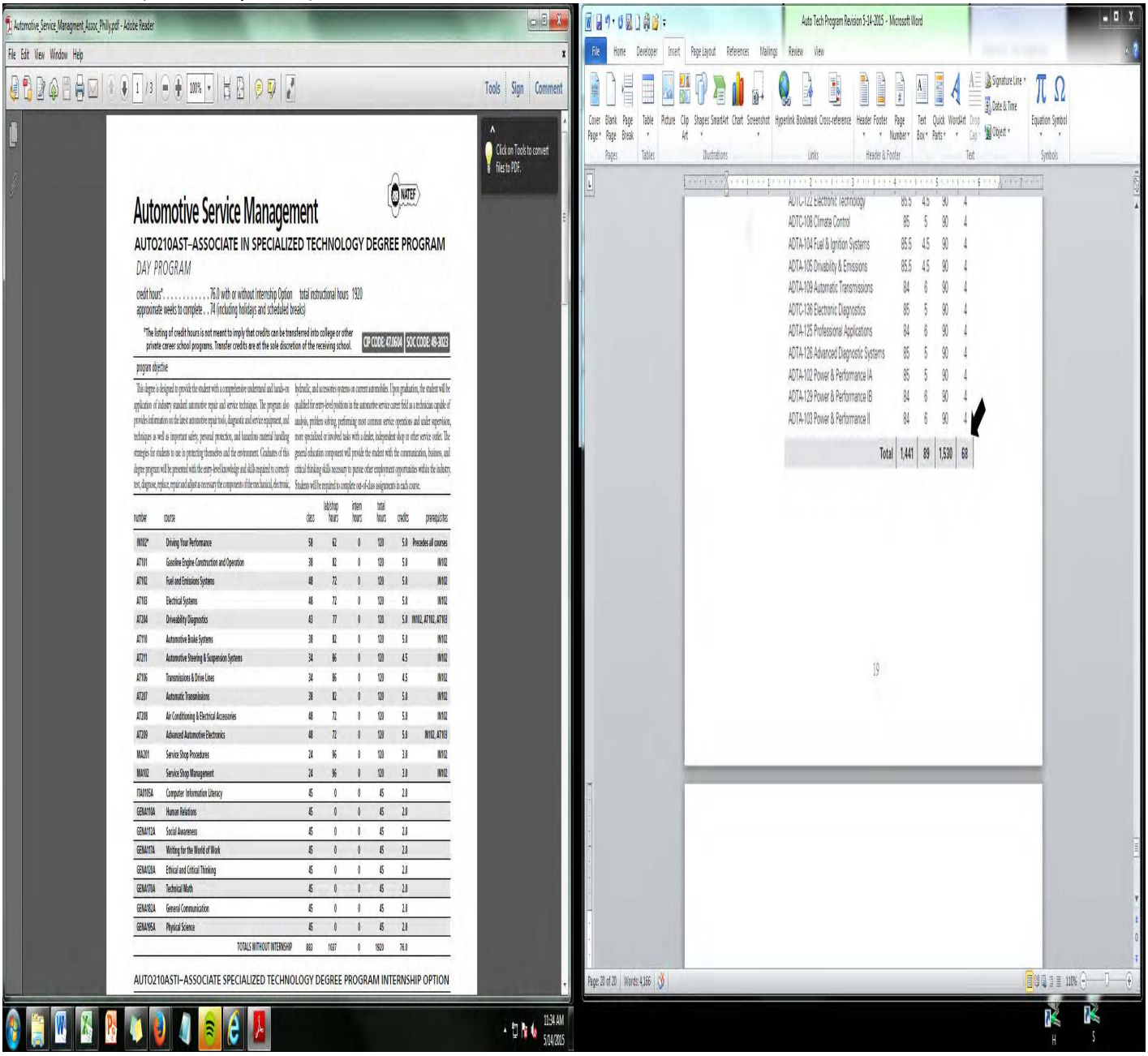
Diesel & Industrial Technology Program

Program 208 - MA, PA, Houston, TX & IL campuses;
45 weeks; 60 semester credit
Hours: 1,270.5 didactic/lab; 79.5 assessment

Program 208/218 - So. CA campus
45/60 weeks; 60 semester credits
Hours: 1,270.5 didactic/lab; 79.5 assessment

Section/Subject	Didactic/Lab Hours	Assess. Hours	Total Inst. Clock Hours	Total Credit Hours
AUTC-101 Automotive Engines & Repair	84	6	90	4
AUTC-107 Brakes	85	5	90	4
AUTC-108 Climate Control	85	5	90	4
AUTD-112 Truck Brakes & Chassis	85	5	90	4
AUTD-114 Diesel Engines	84	6	90	4
AUTD-115 Diesel Fuel Systems	84.5	5.5	90	4
AUTD-110 Diesel Engine Accessories	85	5	90	4
AUTC-117 Electronic Fundamentals	85	5	90	4
AUTI-118 Hydraulic Applications	84	6	90	4
AUTD-119 Truck Power Trains	84.5	5.5	90	4
AUTC-122 Electronic Technology	85.5	4.5	90	4
AUTC-130 Electronic Diagnostics	85	5	90	4
AUTI-126 Transport Refrigeration	84.5	5.5	90	4
AUTD-127 Truck Preventative Maintenance	84	6	90	4
AUTC-120 Automotive Undercar	85.5	4.5	90	4
Total	1,270.5	79.5	1,350	60

Lincoln Tech (as of May 2015)



Automotive Service Management

AUTO210AST–ASSOCIATE IN SPECIALIZED TECHNOLOGY DEGREE PROGRAM

DAY PROGRAM

credit hours*.....76.0 with or without Internship Option total instructional hours 1920
approximate weeks to complete. . .74 (including 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. CIP CODE: 470604 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 clerker, 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.

number	course	class	lab/shop hours	intern hours	total hours	credits	prerequisites
IN102*	Driving Your Performance	58	62	0	120	5.0	Precedes all courses
AT101	Gasoline Engine Construction and Operation	38	82	0	120	5.0	IN102
AT102	Fuel and Emissions Systems	48	72	0	120	5.0	IN102
AT103	Electrical Systems	48	72	0	120	5.0	IN102
AT204	Driveability Diagnostics	43	77	0	120	5.0	IN102, AT102, AT103
AT110	Automotive Brake Systems	38	82	0	120	5.0	IN102
AT211	Automotive Steering & Suspension Systems	34	86	0	120	4.5	IN102
AT106	Transmissions & Drive Lines	34	86	0	120	4.5	IN102
AT207	Automatic Transmissions	38	82	0	120	5.0	IN102
AT208	Air Conditioning & Electrical Accessories	48	72	0	120	5.0	IN102
AT209	Advanced Automotive Electronics	48	72	0	120	5.0	IN102, AT103
MA201	Service Shop Procedures	24	96	0	120	3.0	IN102
MA102	Service Shop Management	24	96	0	120	3.0	IN102
ITA115A	Computer Information Literacy	45	0	0	45	2.0	
GENA110A	Human Relations	45	0	0	45	2.0	
GENA112A	Social Awareness	45	0	0	45	2.0	
GENA117A	Writing for the World of Work	45	0	0	45	2.0	
GENA120A	Ethical and Critical Thinking	45	0	0	45	2.0	
GENA177A	Technical Math	45	0	0	45	2.0	
GENA182A	General Communication	45	0	0	45	2.0	
GENA195A	Physical Science	45	0	0	45	2.0	
	TOTALS WITHOUT INTERNSHIP	883	1037	0	1920	76.0	

AUTO210ASTI–ASSOCIATE SPECIALIZED TECHNOLOGY DEGREE PROGRAM INTERNSHIP OPTION

ADTC-122 Electronic Technology	85.5	4.5	90	4
ADTC-108 Climate Control	85	5	90	4
ADTA-104 Fuel & Ignition Systems	85.5	4.5	90	4
ADTA-105 Driveability & Emissions	85.5	4.5	90	4
ADTA-109 Automatic Transmissions	84	6	90	4
ADTC-136 Electronic Diagnostics	85	5	90	4
ADTA-125 Professional Applications	84	6	90	4
ADTA-126 Advanced Diagnostic Systems	85	5	90	4
ADTA-102 Power & Performance IA	85	5	90	4
ADTA-129 Power & Performance IB	84	6	90	4
ADTA-103 Power & Performance II	84	6	90	4
Total	1,441	89	1,530	68