

## SchSkill Trd, Appr & Renew Tech

### Basic Automotive

2018-19 Academic Year

Program	Year	Semester
START-Trades Fundamentals Certificate	1	1

<b>Course Code:</b> TFBA 1302	<b>Course Equiv. Code(s):</b> N/A
<b>Course Hours:</b> 42	<b>Course GPA Weighting:</b> 3
<b>Prerequisite:</b> N/A	
<b>Corequisite:</b> N/A	
<b>Laptop Course:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
<b>Delivery Mode(s):</b> In class <input checked="" type="checkbox"/> Online <input type="checkbox"/> Hybrid <input type="checkbox"/> Correspondence <input type="checkbox"/>	
<b>Authorized by (Dean or Director):</b> Kevin Baker	<b>Date:</b> August 2018

Prepared by		
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## Course Description:

Students working in the Automotive Basics course will participate in both a theory and shop based learning environment. They will be introduced to a wide cross section of the automotive trade requirements ranging from basic safety and tool usage to vehicle identification and lifting, electrical fundamentals and braking systems.

## Subject Eligibility for Prior Learning Assessment & Recognition (PLAR):

Prior Learning Assessment and Recognition (PLAR) is a process a student can use to gain college credit(s) for learning and skills acquired through previous life and work experiences. Candidates who successfully meet the course learning outcomes of a specific course may be granted credit based on the successful assessment of their prior learning. The type of assessment method (s) used will be determined by subject matter experts. Grades received for the PLAR challenge will be included in the calculation of a student's grade point average.

The PLAR application process is outlined in <http://www.durhamcollege.ca/plar>. Full-time and part-time students must adhere to all deadline dates. Please email: [PLAR@durhamcollege.ca](mailto:PLAR@durhamcollege.ca) for details.

### PLAR Eligibility

Yes  No

### PLAR Assessment (if eligible):

- Assignment
- Exam
- Portfolio
- Other

## Course Learning Outcomes

Course Learning Outcomes contribute to the achievement of Program Learning Outcomes for courses that lead to a credential (e.g. diploma). A complete list of Vocational/Program Learning Outcomes and Essential Employability Skill Outcomes are located in each Program Guide.

### Course Specific Learning Outcomes (CLO)

Student receiving a credit for this course will have reliably demonstrated their ability to:

- CLO1 Identify basic automotive components and functions for all vehicles.
- CLO2 Explain operating principles of selected automotive systems using proper automotive terms.
- CLO3 Identify educational pathways and career opportunities within the automotive trades including both post-secondary, apprenticeship models, and various job opportunities within the profession.
- CLO4 Complete basic automotive projects using service information and appropriate tools, techniques, equipment, and supplies.
- CLO5 Recognize the importance of ethical behaviour in an automotive professional setting.
- CLO6 Apply proper safety procedures and processes while completing automotive projects.

### Essential Employability Skill Outcomes (ESSO)

This course will contribute to the achievement of the following Essential Employability Skills:

- EES 1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.
- EES 2. Respond to written, spoken, or visual messages in a manner that ensures effective communication.
- EES 3. Execute mathematical operations accurately.
- EES 4. Apply a systematic approach to solve problems.
- EES 5. Use a variety of thinking skills to anticipate and solve problems.
- EES 6. Locate, select, organize, and document information using appropriate technology and information systems.
- EES 7. Analyze, evaluate, and apply relevant information from a variety of sources.
- EES 8. Show respect for the diverse opinions, values, belief systems, and contribution of others.
- EES 9. Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.
- EES 10. Manage the use of time and other resources to complete projects.
- EES 11. Take responsibility for one's own actions, decisions, and consequences.

## Evaluation Criteria:

The Course Learning Outcomes and Essential Employability Skills Outcomes are evaluated by the following evaluation criterion.

Evaluation Description	Course Learning Outcomes	EESOs	Weighting
Assignment (Ethical Dilemma)	CLO4, CLO5, CLO6	EES1, EES6, EES11	15
Automotive Shop Activities	CLO1, CLO2, CLO4, CLO6	EES1, EES2, EES6, EES7, EES9, EES10, EES11	20
Quiz (Electrical)	CLO1, CLO2	EES1, EES2, EES3	10
Group Work (Self-Assessment)	CLO1, CLO2, CLO4, CLO5, CLO6	EES1, EES2, EES6, EES7, EES9, EES10, EES11	20
Final Written Test	CLO1, CLO2, CLO3, CLO5, CLO6	EES1, EES2, EES3, EES6, EES7	25
In-Process	CLO1, CLO2, CLO3, CLO5, CLO6	EES1, EES2, EES6, EES7	10
<b>Total</b>			<b>100%</b>

### Notes:

1. Assignments will NOT be accepted after the due date.
2. In-Process activities occur in class and will only be given once. They cannot be made up or supplemented. Any missed in-class activities will be assigned a mark of "0."
3. Due to shop space and timing concerns, shop assignments must be completed by the due date specified by the instructor. Some missed shop projects (NOT including engine's and transmission's) may be completed at a later date for a maximum grade of 50%.
4. Safety equipment must be worn at all times. Students are not allowed in the shop area without proper safety equipment. Students not wearing proper safety equipment will be asked to leave immediately and will receive ZERO on the assigned project for that day.

## Required Text(s) and Supplies:

1. CSA approved safety boots and safety glasses with side shields are required. Long pants and other appropriate clothing must be worn in the shop at all times. Student who are not wearing the appropriate clothing will be asked to leave the shop area and will receive zero on the assigned project for that day.

## Recommended Resources (purchase is optional):

1. Additional resources maybe available upon request of the teacher. The additional resources may enhance the students learning of a specific subject.

# Policies and Expectations for the Learning Environment:

## General Policies and Expectations:

General College policies related to	General policies related to
+ Acceptable Use of Information Technology	+ attendance
+ Academic Policies	+ absence related to tests or assignment due dates
+ Academic Honesty	+ excused absences
+ Student Code of Conduct	+ writing tests and assignments
+ Students' Rights and Responsibilities can be found on-line at <a href="http://www.durhamcollege.ca/academicpolicies">http://www.durhamcollege.ca/academicpolicies</a>	+ classroom management can be found in the Program Guide (full time programs only) in MyCampus <a href="http://www.durhamcollege.ca/mycampus/">http://www.durhamcollege.ca/mycampus/</a>

## Course Specific Policies and Expectations:

### Course Specific Policies and Expectations:

- Safety glasses, safety footwear, full length pants and or coveralls must be worn in the shop at all times. Please refer to the Student Program Guide for the following:
- Student Success Strategies.
- Conduct and behaviour in the classroom and or shop.
- Cell phones, pagers, cameras and similar devices are not to be used or operated in the shop or classroom unless approved by the teacher.
- Attendance requirements.
- Academic Alerts.
- Assignments due.
- Lab work/shop work/ projects and homework.

## General Course Outline Notes:

1. Students should use the course outline as a learning tool to guide their achievement of the learning outcomes for this course. Specific questions should be directed to their individual professor.
2. The college considers the electronic communication methods (i.e. DC Mail or DC Connect) as the primary channel of communication. Students should check the sources regularly for current course information.
3. Professors are responsible for following this outline and facilitating the learning as detailed in this outline.
4. Course outlines should be retained for future needs (i.e. university credits, transfer of credits etc.)
5. A full description of the Academic Appeals Process can be found at <http://durhamcollege.ca/gradeappeal>.
6. Faculty are committed to ensuring accessible learning for all students. Students who would like assistance with academic access and accommodations in accordance with the Ontario Human Rights Code should register with the Access and Support Centre (ASC). ASC is located in room SW116, Oshawa Campus and in room 180 at the Whitby Campus. Contact ASC at 905-721-3123 for more information.
7. Durham College is committed to the fundamental values of preserving academic integrity. Durham College and faculty members reserve the right to use electronic means to detect and help prevent plagiarism. Students agree that by taking this course all assignments could be subject to submission either by themselves or by the faculty member for a review of textual similarity to Turnitin.com. Further information about Turnitin can be found on the Turnitin.com Web site.

# Learning Plan

The Learning Plan is a planning guideline. Actual delivery of content may vary with circumstances.

Students will be notified in writing of changes that involve the addition or deletion of learning outcomes or evaluations, prior to changes being implemented, as specified in the Course Outline Policy and Procedure at Durham College.

Wk.	Hours:	1	Delivery:	In Class
1	<b>Course Learning Outcomes</b>			
	CLO1, CLO2, CLO3, CLO5, CLO6			
	<b>Essential Employability Skills</b>			
	<b>Intended Learning Objectives</b>			
	Course Introduction and Orientation -Review course outline, including Course Learning Outcomes, Essential Employability Skills, and Learning Plan			
	<b>Intended Learning Activities</b>			
Ice-breaker orientation activity Summary activity (review of established safety protocols)				
<b>Resources and References</b>				
Course Outline DC Connect				
<b>Evaluation</b>			<b>Weighting</b>	
In-Process (5x2%)			10	

<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	2	Shop
1	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO3, CLO5, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Safety Protocols in the Automotive Shop Environment -Review safety procedures including proper clothing, evacuation plan, working with others and shop layout. -Handle hazardous materials properly, including: aerosol, brake cleaner, fluids (oil, coolant, washer-fluid, transmission-fluid)	
	<b>Intended Learning Activities</b> Shop tour and overview	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b> Shop sheets (8x2.5%)	<b>Weighting</b> 20
<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	1	In Class
2	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Basic Tool Identification and Maintenance -Identify sizes, uses and types of all tools in the automotive shop, including: wrenches, ratchets, sockets, screw-drivers, pliers, air-tools, torque wrench -Review proper use of power tools, including: Air-tools, saws, grinders, drills, and cutting wheels -Use proper care techniques to maintain air-tools and torque wrenches	
	<b>Intended Learning Activities</b> Discussion Summary wrap-up	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b>	

<b>Wk.</b>	<b>Hours:</b>	<b>2</b>	<b>Delivery:</b>	<b>Shop</b>
2	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4			
	<b>Essential Employability Skills</b>			
	<b>Intended Learning Objectives</b> Basic Tool Identification and Maintenance -Identify sizes, uses and types of all tools in the automotive shop, including: wrenches, ratchets, sockets, screw-drivers, pliers, air-tools, torque wrench -Use proper care techniques to maintain air-tools and torque wrenches			
	<b>Intended Learning Activities</b> Tool-Identification task Calibration/oiling procedure demonstrations			
	<b>Resources and References</b> N/A			
	<b>Evaluation</b>			
<b>Wk.</b>	<b>Hours:</b>	<b>1</b>	<b>Delivery:</b>	<b>In Class</b>
3	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6			
	<b>Essential Employability Skills</b>			
	<b>Intended Learning Objectives</b> Vehicle Identification -Decipher emission labels, tire labels, belt routing diagram, vacuum lines diagram, and Service Parts and Operation (SPO) (GM vehicles) to ensure proper vehicle maintenance.			
	<b>Intended Learning Activities</b> Review activity Whole class discussion			
	<b>Resources and References</b> N/A			
	<b>Evaluation</b>			



<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	2	Shop
3	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Vehicle Identification -Locate emission labels, tire labels, belt routing diagram, vacuum lines diagram, and SPO labels (GM vehicles).	
	<b>Intended Learning Activities</b> Use in-class case and locate the proper labels Complete automotive shop sheet	
	<b>Resources and References</b> Shop Key 5	
	<b>Evaluation</b>	
<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	1	In Class
4	<b>Course Learning Outcomes</b> CLO4, CLO5	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Using the Service Manual/Car Lifting -Review components of a service manual -Differentiate between appropriate and inappropriate forms of automotive service resources. -Explain the ethical repercussions of using inappropriate forms of automotive service resources. -Review common errors and mistakes of vehicle lifting when using floor jacks and jack stands. -Review Safety precautions for using floor jacks and jack stands.	
	<b>Intended Learning Activities</b> Overview lecture Comparing activity	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b>	

<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>	
	2	Shop	
4	<b>Course Learning Outcomes</b> CLO2, CLO4, CLO6		
	<b>Essential Employability Skills</b>		
	<b>Intended Learning Objectives</b> Using the Service Manual/Car Lifting -Navigate Shop Key 5 service manual using real-world situations. -Locate designated lifting points to ensure proper lifting techniques. -Lift a vehicle using proper floor-jack techniques. -Secure a vehicle using proper jack stand techniques.		
	<b>Intended Learning Activities</b> Complete automotive shop sheet Complete navigation activity Vehicle lifting		
	<b>Resources and References</b> Shop Key 5		
	<b>Evaluation</b>		
<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>	
	1	In Class	
5	<b>Course Learning Outcomes</b> CLO4, CLO5, CLO6		
	<b>Essential Employability Skills</b>		
	<b>Intended Learning Objectives</b> Electrical Fundamentals -Describe the action of basic electrical circuits -Calculate current, voltage, and resistance values in a circuit using Ohm's Law -Summarize the internal components of a battery -Compare AC vs. DC currents -Identify certain automotive electrical faults -Explain how to repair broken wiring using solder wiring techniques		
	<b>Intended Learning Activities</b> Overview lecture Summary activity		
	<b>Resources and References</b> N/A		
	<b>Evaluation</b> Assignment (Ethical Dilemma)		<b>Weighting</b> 15

<b>Wk.</b>	<b>Hours:</b> 2	<b>Delivery:</b> Shop
5	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Electrical Fundamentals -Measure current, voltage, and resistance in a circuit using Ohm's Law and circuit boards -Use a multi-meter to measure the conventional-flow -Complete a proper automotive battery boosting sequence -Identify internal components of an automotive battery -Explain the proper maintenance and care of a battery -Use circuit boards to show how circuit rules work -Use solder wiring techniques to repair broken wires	
	<b>Intended Learning Activities</b> Complete scenario activities	
	<b>Resources and References</b> Basic Electricity for Service Techs (YouTube Video)	
	<b>Evaluation</b>	
<b>Wk.</b>	<b>Hours:</b> 1	<b>Delivery:</b> In Class
6	<b>Course Learning Outcomes</b> CLO1, CLO2	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Electrical Fundamentals -Describe the action of basic electrical circuits -Calculate current, voltage, and resistance values in a circuit using Ohm's Law -Summarize the internal components of a battery -Compare AC vs. DC currents -Identify certain automotive electrical faults -Explain how to repair broken wiring using solder wiring techniques	
	<b>Intended Learning Activities</b> Overview Ohm's Law whole class review	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b> Electrical Quiz	<b>Weighting</b> 10

<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>	
	2	Shop	
6	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO5, CLO6		
	<b>Essential Employability Skills</b>		
	<b>Intended Learning Objectives</b> Electrical Fundamentals -Measure current, voltage, and resistance in a circuit using Ohm's Law and circuit boards -Use a multi-meter to measure the conventional-flow -Complete a proper automotive battery boosting sequence -Identify internal components of an automotive battery -Explain the proper maintenance and care of a battery -Use circuit boards to show how circuit rules work -Use solder wiring techniques to repair broken wires		
	<b>Intended Learning Activities</b> Complete scenario activities		
	<b>Resources and References</b> N/A		
	<b>Evaluation</b> Group Work (Self-Assessment)	<b>Weighting</b> 5	
<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>	
	1	In Class	
7	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO5, CLO6		
	<b>Essential Employability Skills</b>		
	<b>Intended Learning Objectives</b> Engine Fundamentals -Identify engine components of the four main types of engines -Describe the four strokes of the main types of engines -Explain why engine lubrication is necessary for proper engine performance -Differentiate between the types of lubricating systems and engine designs (inline, V6, opposed) -Identify the steps to engine disassembly and/or reassembly and the necessary measuring tools required		
	<b>Intended Learning Activities</b> Overview Whole class discussion Interactive activity		
	<b>Resources and References</b> How Car Engines Work (YouTube Video)		
	<b>Evaluation</b>		

<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	2	Shop
7	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Engine Fundamentals -Disassemble engine, and measure components in order to prepare for reassemble -Check engine lubricants, filters, and external components to check for maintenance cycle	
	<b>Intended Learning Activities</b> Disassemble engine Measure engine components	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b>	
<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	1	In Class
8	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Engine Fundamentals -Identify engine components of the four main types of engines -Describe the four strokes of the engines -Explain why engine lubrication is necessary for proper engine performance -Differentiate between the types engine designs (inline, V6, opposed)	
	<b>Intended Learning Activities</b> Overview Interactive activity Summary whole group activity	
	<b>Resources and References</b> How Engines Work (YouTube Video)	
	<b>Evaluation</b>	

<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	2	Shop
8	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Engine Fundamentals -Reassemble engine according to manufacturer procedures -Check engine lubricants, filters, and external components to check for maintenance cycle -Identify the steps to engine disassembly and/or reassembly and the necessary measuring tools required	
	<b>Intended Learning Activities</b> Complete shop sheets Measure engine components Reassemble engine	
	<b>Resources and References</b> Honda GX200 Service Manual - Handout	
	<b>Evaluation</b> Group Work (Self-Assessment)	<b>Weighting</b> 5
<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	1	In Class
9	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Manual Transmission -Describe the relationship between gears -Understand the basic types of gears -Explain the materials necessary for proper clutch engagement/disengagement -Calculate gear ratios -Trace the power flow through a manual transmission -Identify all parts of a transmission	
	<b>Intended Learning Activities</b> Overview Interactive activity Summary activity	
	<b>Resources and References</b> N/A	
<b>Evaluation</b>		

<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	2	Shop
9	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Manual Transmission - Internal Components -Identify synchronizers, shifting forks and rods, input shaft, and output/counter shaft -Manipulate a reverse idler gear	
	<b>Intended Learning Activities</b> Complete shop sheets Disassemble manual transmission	
	<b>Resources and References</b> Subaru Transmission Manual	
	<b>Evaluation</b>	
<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	1	In Class
10	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Manual transmission -Describe the relationship between gears -Understand the basic types of gears -Explain the materials necessary for proper clutch engagement/disengagement -Calculate gear ratios -Trace the power flow through a manual transmission -Identify all parts of a transmission	
	<b>Intended Learning Activities</b> Overview Interactive activity	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b>	

<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	2	Shop
10	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO3, CLO4, CLO5, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Manual Transmission - Internal Components -Identify synchronizers, shifting forks and rods, input shaft, and output/counter shaft -Manipulate a reverse idler gear -Reassemble manual transmission using service manual and half torque specs	
	<b>Intended Learning Activities</b> Complete shop sheets Reassemble manual transmission	
	<b>Resources and References</b> Subaru Transmission Manual	
	<b>Evaluation</b> Group Work (Self-Assessment)	<b>Weighting</b> 5
<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	1	In Class
11	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Steering, Suspension and Brake Fundamentals -Differentiate between summer and winter tire materials -Understand the benefits of proper tire rotation -Review the different types of tires and their construction -Understand the basic suspension system in selected models -Explain why different types of suspensions exist (short and long arm, McPherson strut, and leaf springs)	
	<b>Intended Learning Activities</b> Overview Interactive activity	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b>	



<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	2	Shop
11	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Steering, Suspension, and Brake Fundamentals -Identify suspension components in selected car models -Rotate tires using the proper rotating process -Identify and read tire labels using company stamps and manufacture manuals -Fabricate a brake line using proper tools -Identify the components of a steering rack of selected models. -Identify the components of a hydraulic, manual, and electric steering system	
	<b>Intended Learning Activities</b> Complete shop sheets	
	<b>Resources and References</b> Shop Key 5	
	<b>Evaluation</b>	
<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	1	In Class
12	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Steering, Suspension and Brake Fundamentals -Understand the reason for different brake systems (heat tolerance etc.) -Explain the function of friction material for brakes -Understand the relationship between suspension, steering and brake systems -Explain why different types of suspensions exist (short and long arm, McPherson strut, and leaf springs)	
	<b>Intended Learning Activities</b> Overview Interactive activity	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b>	

<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	2	Shop
12	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Steering, Suspension and Brake Fundamentals -Identify suspension components in selected car models -Rotate tires using the proper rotating process -Identify and read tire labels using company stamps and manufacture manuals -Fabricate a brake line using proper tools -Identify the components of a steering rack of selected models. -Identify the components of a hydraulic, manual, and electric steering system	
	<b>Intended Learning Activities</b> Complete shop sheets	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b>	
<b>Wk.</b>	<b>Hours:</b>	<b>Delivery:</b>
	1	In Class
13	<b>Course Learning Outcomes</b> CLO3, CLO5	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Future Career Opportunities in the Automotive Trade/ Final Exam Review -Review the benefits of a future career in the automotive trade -Understand the automotive apprenticeship process -Explain other sectors in the automotive industry	
	<b>Intended Learning Activities</b> Overview Interactive activity Exam Review	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b>	

<b>Wk.</b>	<b>Hours:</b> 2	<b>Delivery:</b> Shop
13	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO4, CLO5, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Overall Maintenance of the Vehicle -Understand what to look for on selected models -Check all fluids on selected car models -Change oil on selected car models -Check tire pressure on selected car models -Check and change filters on selected car models	
	<b>Intended Learning Activities</b> Complete shop sheets	
	<b>Resources and References</b> Shop Key 5	
	<b>Evaluation</b> Group Work (Self-Assessment)	<b>Weighting</b> 5
<b>Wk.</b>	<b>Hours:</b> 1	<b>Delivery:</b> In Class
14	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO3, CLO4, CLO5, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> -Review all course content by completing a final written test	
	<b>Intended Learning Activities</b> Complete final written test	
	<b>Resources and References</b> Pencil Calculator	
	<b>Evaluation</b> Final Written Test	<b>Weighting</b> 25

Wk.	Hours: 2	Delivery: Shop
14	<b>Course Learning Outcomes</b> CLO1, CLO2, CLO3, CLO4, CLO5, CLO6	
	<b>Essential Employability Skills</b>	
	<b>Intended Learning Objectives</b> Wrap-up -Complete some outstanding projects (NOT including engine's and transmission's worksheets)	
	<b>Intended Learning Activities</b> Complete missed shop sheets	
	<b>Resources and References</b> N/A	
	<b>Evaluation</b>	