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<b>AUT-141A</b>	<b>Suspension &amp; Steering Lab</b>	<b>1 (0-3)</b>	<b>Fall Summer</b>
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**Prerequisites:** None

**Corequisites:** AUT-141<sup>S</sup>

This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to service and repair steering and suspension components, check and adjust alignment angles, repair tires, and balance wheels.(2007 FA)

<b>AUT-151</b>	<b>Brake Systems</b>	<b>3 (2-3)</b>	<b>Spring</b>
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**Prerequisites:** TRN-110<sup>L</sup>

**Corequisites:** AUT-151A<sup>L</sup>

This course covers principles of operation and types, diagnosis, service, and repair of brake systems. Topics include drum and disc brakes involving hydraulic, vacuum boost, hydra-boost, electrically powered boost, and anti-lock and parking brake systems. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems.(2007 FA)

<b>AUT-151A</b>	<b>Brakes Systems Lab</b>	<b>1 (0-3)</b>	<b>Spring</b>
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**Prerequisites:** TRN-110<sup>L</sup>

**Corequisites:** AUT-151<sup>S</sup>

This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include drum and disc brakes involving hydraulic, vacuum-boost, hydra-boost, electrically powered boost, and anti-lock, parking brake systems and emerging brake systems technologies. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems.(2007 FA)

<b>AUT-163</b>	<b>Adv Auto Electricity</b>	<b>3 (2-3)</b>	<b>Fall Spring</b>
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**Prerequisites:** TRN-120<sup>S</sup>

**Corequisites:** None

This course covers electronic theory, wiring diagrams, test equipment, and diagnosis, repair, and replacement of electronics, lighting, gauges, horn, wiper, accessories, and body modules. Topics include networking and module communication, circuit construction, wiring diagrams, circuit testing, and troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair wiring, lighting, gauges, accessories, modules, and electronic concerns.(2013 FA)

<b>AUT-181</b>	<b>Engine Performance 1</b>	<b>3 (2-3)</b>	<b>Fall Spring</b>
<b>Prerequisites:</b> None			
<b>Corequisites:</b> None			
This course covers the introduction, theory of operation, and basic diagnostic procedures required to restore engine performance to vehicles equipped with complex engine control systems. Topics include an overview of engine operation, ignition components and systems, fuel delivery, injection components and systems and emission control devices. Upon completion, students should be able to describe operation and diagnose/repair basic ignition, fuel and emission related driveability problems using appropriate test equipment/service information.(2007 FA)			
<b>AUT-183</b>	<b>Engine Performance 2</b>	<b>4 (2-6)</b>	<b>Fall Spring</b>
<b>Prerequisites:</b> AUT-181 <sup>S</sup>			
<b>Corequisites:</b> None			
This course covers study of the electronic engine control systems, the diagnostic process used to locate engine performance concerns, and procedures used to restore normal operation. Topics will include currently used fuels and fuel systems, exhaust gas analysis, emission control components and systems, OBD II (on-board diagnostics) and inter-related electrical/electronic systems. Upon completion, students should be able to diagnose and repair complex engine performance concerns using appropriate test equipment and service information.(2007 FA)			
<b>AUT-221</b>	<b>Auto Transm/Transaxles</b>	<b>3 (2-3)</b>	<b>Summer</b>
<b>Prerequisites:</b> None			
<b>Corequisites:</b> None			
This course covers operation, diagnosis, service, and repair of automatic transmissions/transaxles. Topics include hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to explain operational theory, diagnose and repair automatic drive trains.(2007 FA)			
<b>AUT-231</b>	<b>Man Trans/Axles/Drtrains</b>	<b>3 (2-3)</b>	<b>Spring</b>
<b>Prerequisites:</b> TRN-110 <sup>L</sup>			
<b>Corequisites:</b> None			
This course covers the operation, diagnosis, and repair of manual transmissions/transaxles, clutches, driveshafts, axles, and final drives. Topics include theory of torque, power flow, and manual drive train servicing and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to explain operational theory, diagnose and repair manual drive trains.(2008 SP)			