



# COURSE OUTLINE

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**Course Name:** Automotive Steering

**Department Head/Coordinator:** Jason Devisser

**Effective Date:** September 2015

<b>School or Centre:</b>		<b>Department:</b>	
School of Transportation Trades		Automotive Service Technician	
<b>Course History:</b>		<b>Year of Study:</b>	
Revised Course		1st Year Post-secondary	
<b>Name of Replacing Course (if applicable):</b>	IAST 1040	<b>Course Number:</b>	IAST 2016
		<b>Number of Credits:</b>	7.0

**Course Pre-requisites (if applicable):**

Completion of Term 1 and Term 2 IAST courses or permission of the Department Head

**Course Co-requisites (if applicable):**

None

**PLAR (Prior Learning Assessment & Recognition)**  No  Yes (details below):

**Course Description:**

Students learn about the design and function of light duty automotive steering gears and will perform troubleshooting and overhauling procedures. Topics include steering boxes, steering racks, hydraulic pressure assisted steering gears and racks. Additional topics include steering columns, supplemental restraint systems, and steering geometry.

**Note to instructors:** An instructional strategy is an approach that an instructor uses to achieve the learning outcomes (e.g., lecture, case study, video, group work).

### **Instructional Strategies:**

Classroom activities are lectures, demonstrations, audio-visual presentations and exercises. Practical experience takes place in an active shop setting. The extensive workshop experience provides reinforcement of theoretical concepts, develops hand skills, and familiarity with repair procedures, electronic equipment and standard safety procedures. All modules are designed to enable the student to work independently and in groups.

### **Course Learning Outcomes:**

Upon successful completion, students will be able to:

- Describe the components of conventional and rack and pinion steering gears, and steering columns
- Describe the components of power steering and passenger restrain systems
- Inspect, diagnose, service, and repair steering gears
- Inspect, diagnose, service and repair steering column and linkage
- Inspect, diagnose, and service power steering systems
- Inspect, diagnose, and service passenger restrain systems
- Perform wheel alignments
- Describe four wheel steering systems

### **Program Learning Outcomes:**

Upon successful completion, students of the Automotive Service Technology Diploma will have acquired the skills and knowledge to:

- Practice working safely including complying with WorkSafeBC and WHMIS regulations
- Apply employability and communication skills while working in a businesslike manner
- Utilize hand, measuring, and power tools and equipment safely and effectively
- Provide general automotive maintenance services including lubrication and fluids, belts and hoses, exterior lamps, body trim and hardware, tires and wheels, non friction bearings and spindles and hubs
- Assess, diagnose and service hydraulic, drum brake, disc brake, power assist and anti-lock brake systems
- Assess, diagnose and service steering systems
- Assess, diagnose and service suspension systems
- Describe and diagnose electrical, electronic, and ignition systems
- Analyze and diagnose On Board Diagnostic (OBD) System Data using advanced electrical test equipment including computer controls, multiplex and network systems
- Identify and service fuel delivery systems, fuel types, alternate fuels, and gasoline fuel injection components
- Describe and test engine management systems including input sensors and output actuators
- Describe new vehicle technology and hybrid systems
- Describe and service vehicle Pre and Post Combustion Systems, emissions, Test OBD-II Evaporative Emission System, and Perform exhaust gas analysis



**Course Topics and Sequence Covered:**

- Steering gears
- Steering column
- Steering linkage
- Power steering systems
- Passenger restraint systems
- Wheel alignment
- Four wheel steering systems

## **VCC Education and Education Support Policies**

There are a number of **Education** and **Education Support** policies that govern your educational experience at VCC, please familiarize yourself with them.

The policies are located on the VCC web site at:

<http://www.vcc.ca/about/governance--policies/policies/>

To find out how this course transfers, visit the BC Transfer Guide at [www.bctransferguide.ca](http://www.bctransferguide.ca).

### **FOR COMMITTEE USE ONLY**

<b>Date Approved by Education Council:</b>		<b>Date Approved by VCC Board (if applicable):</b>	
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