



## ATAP 4001: Auto Service Tech Appr Lvl 4

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### EFFECTIVE DATE

### DEPARTMENT

Automotive Tech Apprenticeship  
**DESCRIPTION**

Learners will describe transmission removal and installation, torque converters, planetary gear trains, hybrid drive systems, and new transmission technology. Learners will also calculate gear ratios, inspect all wheel drive systems, overhaul manual and automatic transmissions, as well as service clutch systems, transmission shifting linkage, hydraulic and electrical control systems, drive shafts, final drives, differentials and axles.

### CREDITS

6.0

### YEAR OF STUDY

1st Year Post-secondary

### PREREQUISITES

None

### COREQUISITES

None

### COURSE LEARNING OUTCOMES

Upon successful completion of this course, students will be able to:

- Service clutch systems
- Describe transmission removal and installation
- Calculate gear ratios
- Service transmission shifting linkage
- Overhaul manual and automatic transmissions
- Describe torque converters
- Describe planetary gear trains
- Service hydraulic and electrical control systems, drive shafts, final drives, differentials and axles
- Inspect all wheel drive systems
- Service mechanical and electronic four wheel drive systems
- Describe hybrid drive systems

- Describe new transmission technology

## PRIOR LEARNING ASSESSMENT & RECOGNITION (PLAR)

None

## HOURS

Lecture: 64

Other: 116

## INSTRUCTIONAL STRATEGIES

Instructional time is (approximately) 40% classroom and 60% practical activity. 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.

## GRADING SYSTEM

Percentages-ITA

## PASSING GRADE

70%

## EVALUATION PLAN

Type	Percentage	Assessment activity
Final Exam	40	Predetermined by ITA
Quizzes/Tests	40	Predetermined by ITA
Lab Work	20	Predetermined by ITA

## COURSE TOPICS

- Clutch systems
- Transmissions
- Gear ratios and trains
- Torque converters
- Hydraulic and electrical control systems, drive shafts, final drives, differentials and axles
- Wheel and hybrid drive systems
- Hybrid drive systems

## LEARNING RESOURCES

None

Notes:

- Course contents and descriptions, offerings and schedules are subject to change without notice.
- Students are required to follow all College policies including ones that govern their educational experience at VCC. Policies are available on the VCC website at:  
<https://www.vcc.ca/about/governance--policies/policies/>.
- To find out how this course transfers, visit the BC Transfer Guide at <https://www.bctransferguide.ca>.

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**Downtown campus**

250 West Pender Street  
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Generated at: 9:53 pm on Apr. 19, 2021