Area of Interest: Apprenticeships

**Truck and Coach Technician (Apprenticeship)**

College Certificate  
24 Weeks  
Ottawa Campus

**Academic Year:** 2020/2021  
**Program Code:** 0529M01FWO

**Our Program**

**Become a journeyperson in the truck and coach industry.**

The Truck and Coach Technician Algonquin College Certificate program is designed for registered apprentices in the truck and coach trade.

Applicants to the Truck and Coach Technician program must:

- be currently employed in the trade
- be formally registered as apprentices with the Ministry of Labour, Training and Skills Development (MLTSD)
- have a valid Offer of Classroom Training from the Ministry of Labour, Training and Skills Development that includes your Ministry Client ID and approved Class Number

If you are considering a future as truck and coach technician, you might work for businesses such as:

- bus/coach lines
- construction companies
- manufacturers
- small trucking companies
- public and private sector fleets

If you want to learn more about apprenticeships, visit www.earnwhileyoulearn.ca for detailed information.

**For Registered Apprentices:**

This program fulfills the in-class requirements for your apprenticeship. It is divided into three levels (Beginner, Intermediate, Advanced) where you will alternate between going to class for 8 weeks and honing your skills through working in the field for 8 - 12 months.

During your labs, you study topics relating to:

- trade practices
- auxiliary systems
- engine systems
- electrical systems
- fuel systems
- vehicle electronic management
- emission systems
• drive trains
• steering
• suspension
• brake systems

At the end of this program, you qualify to write the Red Seal Endorsement (RSE) exam, which is recognized across Canada.

SUCCESS FACTORS

This program is well-suited for apprentices who:

• Enjoy a hands-on approach to learning about the truck and coach industry.
• Have strong observational and analytical skills.
• Can work independently.

Employment

A broad range of employment opportunities may be available to truck and coach technicians. The truck and coach repair industry may include such businesses as: bus/coach lines, large and small trucking companies, construction companies, manufacturers, and public and private sector fleets.

Program of Study

<table>
<thead>
<tr>
<th>Level</th>
<th>Courses</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level: 01</td>
<td>Courses</td>
<td></td>
</tr>
<tr>
<td>TRK8307</td>
<td>Engine Systems I</td>
<td>40.0</td>
</tr>
<tr>
<td>TRK8308</td>
<td>Trade Practices</td>
<td>32.0</td>
</tr>
<tr>
<td>TRK8309</td>
<td>Fluid Power Systems 1</td>
<td>24.0</td>
</tr>
<tr>
<td>TRK8310</td>
<td>Drive Train Systems 1</td>
<td>32.0</td>
</tr>
<tr>
<td>TRK8311</td>
<td>Wheel End Assemblies and Brake Systems</td>
<td>32.0</td>
</tr>
<tr>
<td>TRK8312</td>
<td>Fuel Systems 1</td>
<td>24.0</td>
</tr>
<tr>
<td>TRK8313</td>
<td>Electrical Systems 1</td>
<td>48.0</td>
</tr>
<tr>
<td>WEL8308</td>
<td>Trade Practices - Welding</td>
<td>8.0</td>
</tr>
<tr>
<td>Level: 02</td>
<td>Courses</td>
<td></td>
</tr>
<tr>
<td>TRK8831</td>
<td>Engine Systems II</td>
<td>40.0</td>
</tr>
<tr>
<td>TRK8832</td>
<td>Drive Train Systems II</td>
<td>40.0</td>
</tr>
<tr>
<td>TRK8833</td>
<td>Steering, Suspension and Brake Systems I</td>
<td>48.0</td>
</tr>
<tr>
<td>TRK8834</td>
<td>Fuel Systems II</td>
<td>24.0</td>
</tr>
<tr>
<td>TRK8835</td>
<td>Electrical Systems II</td>
<td>40.0</td>
</tr>
<tr>
<td>TRK8836</td>
<td>Vehicle Electronic Management and Emissions Systems I</td>
<td>16.0</td>
</tr>
<tr>
<td>TRK8837</td>
<td>Trade Practices and Auxiliary Systems</td>
<td>8.0</td>
</tr>
<tr>
<td>WEL8810</td>
<td>Trade Practices and Auxiliary Systems - Welding</td>
<td>24.0</td>
</tr>
<tr>
<td>Level: 03</td>
<td>Courses</td>
<td></td>
</tr>
<tr>
<td>TRK8840</td>
<td>Trade Practices and Auxiliary Systems II</td>
<td>24.0</td>
</tr>
<tr>
<td>TRK8841</td>
<td>Engine Systems III</td>
<td>40.0</td>
</tr>
<tr>
<td>TRK8842</td>
<td>Drive Train Systems III</td>
<td>40.0</td>
</tr>
<tr>
<td>TRK8843</td>
<td>Steering, Suspension and Brake Systems II</td>
<td>48.0</td>
</tr>
<tr>
<td>TRK8844</td>
<td>Fuel Systems III</td>
<td>24.0</td>
</tr>
<tr>
<td>TRK8845</td>
<td>Electrical Systems III</td>
<td>32.0</td>
</tr>
<tr>
<td>TRK8846</td>
<td>Vehicle Electronic Management and Emissions Systems II</td>
<td>32.0</td>
</tr>
</tbody>
</table>
parking and locker fees, as applicable.

Admission Requirements for the 2021/2022 Academic Year

Program Eligibility

- Applicants must be formally registered as apprentices and be released by their sponsor to attend the College.
- Eligibility is determined by the Ministry of Labour, Training and Skills Development.

Admission Requirements for 2020/2021 Academic Year

Program Eligibility

- Applicants must be formally registered as apprentices and be released by their sponsor to attend the College.
- Eligibility is determined by the Ministry of Training Colleges and Universities.

Application Information

TRUCK AND COACH TECHNICIAN (APPRENTICESHIP)
Program Code 0529M01FWO

Registration for Apprenticeship programs takes place through the Ministry of Labour, Training and Skills Development.

For further information, contact:

Ministry of Labour, Training and Skills Development
347 Preston Street
3rd Floor, Suite 310
Ottawa, ON K1S 3H8

http://www.ontario.ca/page/start-apprenticeship
Telephone: 613-731-7100
Toll-free: 1-877-221-1220

Additional Information

For more information, please contact one of the following program coordinators:

- Martin Restoule, 613-727-4723 ext. 5153, restoum@algonquincollege.com
- Greg Campbell, 613-727-4723 ext. 2936, campbeg1@algonquincollege.com

Course Descriptions

TRK8307 Engine Systems I

Apprentices are introduced to the operating principles and construction features of diesel engines pertaining to the various commercial vehicles and equipment trades. Topics include engine operating and component fundamentals, engine system identification, maintenance and service procedures. Approximately 60 per cent of the course is dedicated to theory instruction, the remaining 40 per cent centres on practical applications.

Prerequisite(s): none
Corerequisite(s): TRK8308 and TRK8309 and TRK8310 and TRK8311 and TRK8312 and TRK8313

TRK8308 Trade Practices

Apprentices are introduced to trade practices and procedures in the repair and service of commercial vehicles and equipment and are prepared for a variety of commercial vehicle trades. Topics include occupational health and safety, precision measuring tools, fastening devices and torquing procedures, bearings, seals, and sealants. Approximately 60 per cent of the course is dedicated to theory instruction, the remaining 40 per cent centres on practical applications.
Truck and Coach Technician (Apprenticeship)

Prerequisite(s): none
Corerequisite(s): TRK8307 and TRK8309 and TRK8310 and TRK8311 and TRK8312 and TRK8313 and WEL8308

TRK8309 Fluid Power Systems 1

Apprentices are introduced to fluid power systems pertaining to the various commercial vehicles and equipment trades. Topics include fluid power fundamentals, components, graphic symbols, principles of operation, hydraulic fluids and filters, conductors and connectors and maintenance schedules. Approximately 60 per cent of the course is dedicated to theory instruction, the remaining 40 per cent centres on practical applications.

Prerequisite(s): none
Corerequisite(s): TRK8307 and TRK8308 and TRK8310 and TRK8311 and TRK8312 and TRK8313

TRK8310 Drive Train Systems 1

Apprentices are introduced to the operating principles and construction features of drive train systems pertaining to the various commercial vehicles and equipment trades. Topics include push-type clutch and flywheel assemblies, gearing fundamentals, single countershaft manual transmissions, drive shafts, power take-off shafts, universal joints and single reduction drive axle assemblies. Approximately 60 per cent of the course is dedicated to theory instruction, the remaining 40 per cent centres on practical applications.

Prerequisite(s): none
Corerequisite(s): TRK8307 and TRK8308 and TRK8309 and TRK8310 and TRK8312 and TRK8313

TRK8311 Wheel End Assemblies and Brake Systems

Apprentices are introduced to the operating principles and construction features of brake systems pertaining to the various commercial vehicles and equipment trades. Topics include purpose, fundamentals, principles of operation, maintenance, and the servicing of hydraulic and air brake systems. Approximately 60 per cent of the course is dedicated to theory instruction, the remaining 40 per cent centres on practical applications.

Prerequisite(s): none
Corerequisite(s): TRK8307 and TRK8308 and TRK8309 and TRK8310 and TRK8312 and TRK8313

TRK8312 Fuel Systems 1

Apprentices are introduced to the operating principles and construction features of fuel systems pertaining to the various commercial vehicles and equipment trades. Topics include fundamentals of diesel fuel systems, diesel fuel injection principles, diesel fuel injection sub-systems and diesel hydraulic injection. Approximately 60 per cent of the course is dedicated to theory instruction, the remaining 40 per cent centres on practical applications.

Prerequisite(s): none
Corerequisite(s): TRK8307 and TRK8308 and TRK8309 and TRK8310 and TRK8311 and TRK8313

TRK8313 Electrical Systems 1

Apprentices are introduced to the operating principles and construction features of electrical systems pertaining to the various commercial vehicles and equipment trades. Topics include introduction to electricity, electrical laws, test equipment, circuits and calculations, circuits and protective devices, circuit repair, electromagnetic devices and battery fundamentals. Approximately 60 per cent of the course is dedicated to theory instruction, the remaining 40 per cent centres on practical applications.

Prerequisite(s): none
Corerequisite(s): TRK8307 and TRK8308 and TRK8309 and TRK8310 and TRK8311 and TRK8312
**TRK8831 Engine Systems II**

Apprentices examine the theory and applications of diesel cylinder heads and valve trains, diesel cylinder block assemblies, and gasoline and alternate fueled engines. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, and servicing of these engine systems.

Prerequisite(s): TRK8307
Corerequisite(s): TRK8832 and TRK8833 and TRK8834 and TRK8835 and TRK8836

**TRK8832 Drive Train Systems II**

Apprentices examine the theory and applications of heavy-duty drivelines and includes pull-type clutches and flywheel assemblies, multiple countershaft manual shift transmissions and auxiliary sections, multiple speed and double reduction drive axle assemblies, power divided tandem drive assemblies and electronically automated standard transmissions. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems.

Prerequisite(s): TRK8310
Corerequisite(s): TRK8831 and TRK8833 and TRK8834 and TRK8835 and TRK8836

**TRK8833 Steering, Suspension and Brake Systems I**

Apprentices examine the theory and applications of air, hydraulic and air over hydraulic brake systems, tires and wheel assemblies, wheel end assemblies, and mechanical and air suspension systems. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems.

Prerequisite(s): TRK8311
Corerequisite(s): TRK8831 and TRK8832 and TRK8834 and TRK8835 and TRK8836

**TRK8834 Fuel Systems II**

Apprentices examine the theory and applications of diesel injection systems, electronic unit injection systems, engine governing, and gasoline and alternate fuel injection systems. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems.

Prerequisite(s): TRK8312
Corerequisite(s): TRK8831 and TRK8832 and TRK8833 and TRK8835 and TRK8836

**TRK8835 Electrical Systems II**

Apprentices examine the theory and applications of electrical and electronic fundamentals, heavy duty batteries, cranking circuits, electrical circuit interpretation, and truck and coach auxiliary electrical components. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems.

Prerequisite(s): TRK8313
Corerequisite(s): TRK8831 and TRK8832 and TRK8833 and TRK8834 and TRK8836

**TRK8836 Vehicle Electronic Management and Emissions Systems I**

Apprentices examine the theory and applications of electronic service tools, vehicle computer fundamentals and electronic input circuit components. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems.

Prerequisite(s): TRK8312 and TRK8313
Corerequisite(s): TRK8831 and TRK8832 and TRK8833 and TRK8834 and TRK8835
TRK8837 Trade Practices and Auxiliary Systems

Apprentices examine the theory and application of applied trade practices, information accessing, communication systems, cabs and control systems, and truck, trailer and articulating coach combinations.

Prerequisite(s): TRK8308
Corerequisite(s): none

TRK8840 Trade Practices and Auxiliary Systems II

Apprentices examine the theory and applications of heating, ventilation and air conditioning systems. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems. Apprentices also examine the regulatory requirements relating to the truck and coach trade.

Prerequisite(s): none
Corerequisite(s): TRK8841 and TRK8842 and TRK8843 and TRK8844 and TRK8845 and TRK8846

TRK8841 Engine Systems III

Apprentices examine the theory and applications of heavy-duty intake and exhaust systems, turbochargers and roots blowers, cooling systems and coolants, lubrication systems and oils, engine brakes and retarders, engine component failure analysis, engine diagnostic procedures and practices, diesel engine run-in and testing. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems.

Prerequisite(s): TRK8831
Corerequisite(s): TRK8840 and TRK8842 and TRK8843 and TRK8844 and TRK8845 and TRK8846

TRK8842 Drive Train Systems III

Apprentices examine the theory and applications of torque converters, automatic transmissions, electronically controlled automatic transmissions, transfer cases, drop boxes and power take-off assemblies. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems.

Prerequisite(s): TRK8832
Corerequisite(s): TRK8840 and TRK8841 and TRK8843 and TRK8844 and TRK8845 and TRK8846

TRK8843 Steering, Suspension and Brake Systems II

Apprentices examine the theory and applications of brake system diagnostics, anti-lock brake systems (ABS), automatic traction control systems (ATC), roll and directional stability systems (RDS), medium and heavy duty steering axle systems, vehicle alignment, mechanical and hydraulic power assist steering systems, coupling devices, and truck, coach, bus, and trailer frames and bodies. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems. Students also examine pneumatic circuit interpretation and analysis.

Prerequisite(s): TRK8833
Corerequisite(s): TRK8840 and TRK8841 and TRK8842 and TRK8844 and TRK8845 and TRK8846

TRK8844 Fuel Systems III

Apprentices examine the theory and applications of diesel fuel systems including hydraulically actuated electronic unit injector systems (HEUI), electronic unit pump systems, time-pressure electronic common rail systems, and, common rail accumulator systems. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems.

Prerequisite(s): TRK8834
Corerequisite(s): TRK8840 and TRK8841 and TRK8842 and TRK8843 and TRK8845 and TRK8846

**TRK8845 Electrical Systems III**

Apprentices examine the theory and applications of heavy duty charging circuits, electronic ignition systems, and electrical component reconditioning and troubleshooting. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair, and servicing of these components and systems.

Prerequisite(s): TRK8835
Corequisite(s): TRK8840 and TRK8841 and TRK8842 and TRK8843 and TRK8844 and TRK8846

**TRK8846 Vehicle Electronic Management and Emissions Systems II**

Apprentices examine the theory and applications of customer and proprietary data programming, multiplexing, emission controls and testing, hybrid drive systems and collision avoidance systems. Topics include an exploration of definitions, operating principles, design features, inspection, testing, diagnosis, repair and servicing of these components and systems.

Prerequisite(s): TRK8836
Corequisite(s): TRK8840 and TRK8841 and TRK8842 and TRK8843 and TRK8844 and TRK8845

**WEL8308 Trade Practices - Welding**

Apprentices are introduced to trade practices and procedures in the repair and service of commercial vehicles and equipment. Students are prepared for a variety of commercial vehicle trades. Topics include heating and cutting methods.

Prerequisite(s): none
Corequisite(s): none

**WEL8810 Trade Practices and Auxiliary Systems - Welding**

Apprentices examine the theory and application of arc welding and MIG welding.

Prerequisite(s): WEL8308
Corequisite(s): none