



New Zealand Certificate in Heavy Automotive Engineering (Level 4) (Road Transport) or (Plant and Equipment)

Location

Dunedin

Duration

Three and a half years part-time

Delivery

You will be expected to attend a weekly night class, additional one-week block courses, and to undertake some self-directed study in conjunction with your apprenticeship

Credits

240

DescLevel

240

Intakes

Flexible

Apply

Anytime - email autotrades@op.ac.nz

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Build on the skills and knowledge you gained in the [New Zealand Certificate in Automotive](#)

Engineering (Level 3).

This qualification is ideal for learners who are starting, or already doing, an apprenticeship in the workplace. Plus, you'll be able to study for free due to the Government's Trades Training and Apprenticeship Fund.

During this programme, you will gain the industry-specific skills you need to work in a wide range of roles in the motor industry. You will learn how to safely and effectively diagnose and repair faults that are commonly encountered on heavy vehicles. You will complete either the Road Transport or Plant and Equipment strand.

Upon successful completion, you will graduate as a Qualified Automotive Technician and would be well placed to pursue senior positions in a heavy automotive workshop.

Entry requirements

- Level 3 Automotive Engineering qualification (such as the [New Zealand Certificate in Automotive Engineering \(Level 3\)](#)) OR evidence of equivalent skills and knowledge.
- You must be employed in a heavy automotive engineering workplace which is operating at a commercially-acceptable industry standard.
- You, your employer and Otago Polytechnic must enter into a training agreement.
- You must hold a current workplace First Aid certificate (prior to enrolment).
- You must achieve a Class 4 Licence before your programme ends.
- If English is not your first language, you must provide:
 - New Zealand University Entrance OR
 - Overall Academic IELTS 5.5 with no individual band score lower than 5.0 (achieved in one test completed in the last two years), OR
 - Acceptable alternative evidence of the required IELTS ([see here for NZQA proficiency table](#) and [here for list of recognised proficiency tests](#)).

If you need to improve your English Language skills, we offer a [wide range of English programmes](#).

Selection criteria

Applicants will be selected on a first-come, first-served basis until the programme has reached full capacity.

You will study - Road Transport

Course name (you will need to complete all of these courses)

Credits

Effective Workplace Maintenance and Safety

- Monitor the workplace to ensure safety practices are consistently applied
- Participate in the implementation of workplace effectiveness strategies 15
- Identify and respond to issues to maintain a safe and effective workplace

Multi-Cylinder Diesel Engines

- Service and repair 4 stroke multi-cylinder diesel engines 20
- Test and tune a 4 stroke multi-cylinder diesel engine
- Service and repair heavy vehicle cooling systems

Diesel Engine Intake and Exhaust Systems

- Service and repair
 - intake and intercooler systems
 - exhaust and turbocharging systems 15
 - exhaust and engine brakes
- Apply high risk precautionary measures to servicing and repairs of intake and exhaust systems

Diesel Fuel Injection Systems

- Service and repair
 - common rail or unit injection systems 15
 - pre-heating systems
- Apply precautionary measures to servicing and repairs of fuel systems

Diesel Engine Emission Control Systems

- Service and repair
 - exhaust gas recirculation systems
 - diesel exhaust selective catalyst reduction systems 15
 - diesel exhaust particulate filtration systems
- Apply precautionary measures to servicing and repairs of emission systems

CoF Inspections and Vehicle Recovery

- Complete service and repairs to meet the Certificate of Fitness (CoF) inspection standards 10
- Recover heavy vehicle on road vehicles by flat towing or lifting

Heavy Vehicle On-Road Clutches and Transmissions

- Service and repair
 - heavy vehicle on-road drivelines
 - heavy vehicle on-road final drives
 - heavy vehicle on-road axle hub assemblies
 - Apply precautionary measures to servicing and repairs of driveline systems
- 15

Heavy Vehicle On-Road Drivelines and Final Drive Assemblies

- Service and repair
 - heavy vehicle on-road drivelines
 - heavy vehicle on-road final drives
 - heavy vehicle on-road axle hub assemblies
 - Apply precautionary measures to servicing and repairs of driveline systems
- 15

Heavy Vehicle On-Road Suspension and Chassis Systems

- Service and repair
 - heavy vehicle on-road suspension systems
 - heavy vehicle on-road chassis systems
 - heavy vehicle on-road 5th wheel and rigid drawbar towing systems
 - Apply precautionary measures to servicing and repairs of suspension and chassis systems
- 15

Heavy Vehicle On-Road Steering Systems

- Service and repair
 - heavy vehicle on-road single and multi-axle steering systems
 - heavy vehicle on-road wheels and tyres
 - heavy vehicle on-road hydraulic systems
 - Apply precautionary measures to servicing and repairs of steering systems
- 15

Heavy Vehicle On-Road Starting, Charging and Lighting Systems

- Service and repair
 - heavy vehicle starting systems
 - heavy vehicle charging systems
 - heavy vehicle lighting systems
- 15

Heavy Vehicle On-Road Foundation Brake Systems

- Service and repair
 - heavy vehicle on-road pneumatic over hydraulic brake systems 15
 - heavy vehicle on-road hydraulic brake systems
- Apply precautionary measures to servicing and repairs of foundation braking systems

Heavy Vehicle On-Road Pneumatic Brake Systems

- Service and repair
 - heavy vehicle on-road pneumatic truck braking systems
 - heavy vehicle on-road pneumatic trailer braking systems 15
- Apply precautionary measures to servicing and repairs of pneumatic braking systems

Heavy Vehicle On-Road Electronic Brake and Stability Control Systems

- Service and repair
 - heavy vehicle on-road electronics brake control systems 15
 - heavy vehicle on-road electronically-controlled stability control systems

Heavy Vehicle On-Road Cab and Body Control Systems

- Service and repair
 - heavy vehicle on-road cab safety systems
 - heavy vehicle on-road cab comfort systems 15
 - heavy vehicle on-road cab driver control systems
 - heavy vehicle on-road body control systems

Heavy Vehicle On-Road Telematics and Hybrid Systems

- Describe the process to diagnose and repair heavy vehicle on-road telematic systems and high voltage systems 15
- Apply precautionary measures to servicing and repairs of high voltage systems

Total 240

You will study - Plant and Equipment

Course name (you will need to complete all of these courses) Credits

Effective Workplace Maintenance and Safety

- Monitor the workplace to ensure safety practices are consistently applied
 - Participate in the implementation of workplace effectiveness strategies
 - Identify and respond to issues to maintain a safe and effective workplace
- 15

Multi-Cylinder Diesel Engines

- Service and repair 4 stroke multi-cylinder diesel engines
 - Test and tune a 4 stroke multi-cylinder diesel engine
 - Service and repair heavy vehicle cooling systems
- 20

Diesel Engine Intake and Exhaust Systems

- Service and repair
 - intake and intercooler systems
 - exhaust and turbocharging systems
 - exhaust and engine brakes
 - Apply high risk precautionary measures to servicing and repairs of intake and exhaust systems
- 15

Diesel Fuel Injection Systems

- Service and repair
 - common rail or unit injection systems
 - pre-heating systems
 - Apply precautionary measures to servicing and repairs of fuel systems
- 15

Diesel Engine Emission Control Systems

- Service and repair
 - exhaust gas recirculation systems
 - diesel exhaust selective catalyst reduction systems
 - diesel exhaust particulate filtration systems
 - Apply precautionary measures to servicing and repairs of emission systems
- 15

Plant and Equipment Safety Inspections and Vehicle Recovery

- Complete service and repairs to meet safety inspection standards
 - Demonstrate knowledge of plant and equipment machinery by flat towing or lifting
- 10

Plant and Equipment Clutches and Transmissions

- Service and repair
 - heavy vehicle plant and equipment clutches
 - heavy vehicle plant and equipment transmissions
- 15
- Apply precautionary measures to servicing and repairs of clutch and transmission systems

Plant and Equipment Drivelines and Final Drive Assemblies

- Service and repair
 - heavy vehicle plant and equipment mechanical drivelines
 - heavy vehicle plant and equipment mechanical final drives
- 15
- Apply precautionary measures to servicing and repairs of driveline systems

Plant and Equipment Hydraulic Systems

- Service and repair
 - hydraulic pump systems on heavy vehicle plant and equipment
 - hydraulic control and delivery systems on heavy vehicle plant and equipment
 - hydraulic actuator and drive systems on heavy vehicle plant and equipment
- 20
- Apply precautionary measures to servicing and repairs of suspension and chassis systems

Plant and Equipment Suspension, Chassis and Track Drive Undercarriage Systems

- Service and repair
 - plant and equipment suspension and chassis systems
 - plant and equipment track drive undercarriage systems
- 15
- Apply precautionary measures to servicing and repairs of suspension and chassis systems

Plant and Equipment Steering Systems

- Service and repair
 - plant and equipment single and/or multi-axle steering systems
 - plant and equipment on tracks and tyres
- 15
- Apply precautionary measures to servicing and repairs of steering systems

Plant and Equipment Starting, Charging and Lighting Systems

- Service and repair 15
 - plant and equipment starting systems
 - plant and equipment charging systems
 - plant and equipment lighting systems

Plant and Equipment Brake Systems

- Service and repair
 - plant and equipment pneumatic brake systems 15
 - plant and equipment hydraulic brake systems
- Apply precautionary measures to servicing and repairs of foundation braking systems

Plant and Equipment Attached Equipment

- Service and repair plant and equipment attached, equipment couplings and controls 15
- Apply precautionary measures to fitment and removal of attached/auxillary equipment for service or repair

Plant and Equipment Machine Electronic Control Systems and Electronic Safety Systems

- Service and repair
 - plant and equipment safety and operator protection systems 15
 - plant and equipment cab comfort systems
 - plant and equipment electronic control systems for machine operation

Plant and Equipment Onboard Network Systems, Telematics and Autonomous Machine Operation

- Demonstrate knowledge of onboard network systems 15
- Demonstrate knowledge of automated machine, telematics and autonomous machine operation

Total 240

Recognition of Prior Learning

If you already have extensive knowledge and skills gained from practical experience in this area, enquire about our recognition of prior learning process at [Capable NZ](#). You may have already gained credits towards this qualification in the course of your life.

Your workload

You will be required to attend night classes and block courses. You will do approximately six hours per week of directed study (outside of your employment commitments).

Additional costs

Safety equipment and clothing (may be supplied by your employer).

You need to buy all of your textbooks, stationery, tools.

Textbooks (optional - online digital access will be provided while studying):

- CDX Fundamentals of Automotive Technology (ISBN: 978-1-284-10689-3)
- CDX Medium and Heavy Duty Diesel Engines (ISBN: 978-1-284-06705-7)
- CDX Medium and Heavy Commercial Vehicle Systems (ISBN: 978-1-284-04116-3)
- CDX Mobile Heavy Equipment (ISBN: 978-1-284-11291-7)

Stationery (compulsory):

- 1 x calculator
- Pens/pencils/eraser etc.
- 8 GB flash drive

Smart device (Recommended):

- Laptop, cellphone or tablet which is Wifi capable, able to take photos and use Windows 365 applications.

Paying for your study

TTAF

The Government's Targeted Training and Apprenticeship Fund (TTAF) is currently running but will end in December 2022. That means only your part-time study undertaken in 2022 will be covered. You may be able to get some financial help for your remaining study through the Fees Free scheme if you're eligible (see info below).

Whilst this programme is free for you to study during 2022, the TTAF fund only covers tuition fees and compulsory costs such as student levies. It does not cover any additional costs or living costs.

You can pay for additional and living costs yourself if this is possible.

As a part-time learner, you're generally not eligible for student loans and allowances through Studylink but some help may be possible depending on your circumstances (for domestic students). Check the [Studylink website](#) for more information.

Fees Free

The Government is also running a funding scheme called Fees Free for domestic learners. This scheme normally pays for your first year of study if you've never been enrolled in tertiary study over 60 credits at Level 3 or higher in New Zealand. They have confirmed that TTAF does not impact on a learner's entitlement to also access the Fees Free scheme.

So, you'll be covered by TTAF for your first year of part-time study and, if you would

have originally been eligible for Fees Free, you'll be able to access that to cover some of your remaining part-time study.

[You can check your Fees Free eligibility here >](#)

Fees Free only covers your tuition fees. You would still need to pay for things like accommodation, living costs and placement transport costs.

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