



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



Email EngTrades@op.ac.nz to find out how to apply.

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
Level	4
Start	Flexible
Apply	Anytime - email EngTrades@op.ac.nz

Fee: Free!

Due to the Government's Targeted Training and Apprenticeship Fund.

> You will still need to pay for any additional course-related costs such as textbooks or protective footwear (see more info in Additional Costs section).

> You can pay for this yourself or apply for a loan/allowance via Studylink.

This programme is **not** available to international students.

*Fees are approximate, subject to change and exchange rates

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

- > New Zealand Certificate in Automotive Engineering (Level 3) OR equivalent skills and knowledge.
- > You must also be employed in a heavy automotive engineering workplace which is operating at a commercially-acceptable industry standard.
- > Enrolment into this programme will also require you, your employer and Otago Polytechnic to enter into a training agreement.

It is recommended that you hold a current workplace First Aid certificate (prior to enrolment) and achieve a Class 4 Licence before you complete this programme.

> 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
<p>Effective Workplace Maintenance and Safety</p> <ul style="list-style-type: none"> > 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
<p>Multi-Cylinder Diesel Engines</p> <ul style="list-style-type: none"> > 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
<p>Diesel Engine Intake and Exhaust Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > 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
<p>Diesel Fuel Injection Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > common rail or unit injection systems > pre-heating systems > Apply precautionary measures to servicing and repairs of fuel systems 	15
<p>Diesel Engine Emission Control Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > 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
<p>CoF Inspections and Vehicle Recovery</p> <ul style="list-style-type: none"> > Complete service and repairs to meet the Certificate of Fitness (CoF) inspection standards > Recover heavy vehicle on road vehicles by flat towing or lifting 	10
<p>Heavy Vehicle On-Road Clutches and Transmissions</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > 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

<p>Heavy Vehicle On-Road Drivelines and Final Drive Assemblies</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > 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
<p>Heavy Vehicle On-Road Suspension and Chassis Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > 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
<p>Heavy Vehicle On-Road Steering Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > 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
<p>Heavy Vehicle On-Road Starting, Charging and Lighting Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > heavy vehicle starting systems > heavy vehicle charging systems > heavy vehicle lighting systems 	15
<p>Heavy Vehicle On-Road Foundation Brake Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > heavy vehicle on-road pneumatic over hydraulic brake systems > heavy vehicle on-road hydraulic brake systems > Apply precautionary measures to servicing and repairs of foundation braking systems 	15
<p>Heavy Vehicle On-Road Pneumatic Brake Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > heavy vehicle on-road pneumatic truck braking systems > heavy vehicle on-road pneumatic trailer braking systems > Apply precautionary measures to servicing and repairs of pneumatic braking systems 	15
<p>Heavy Vehicle On-Road Electronic Brake and Stability Control Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > heavy vehicle on-road electronics brake control systems > heavy vehicle on-road electronically-controlled stability control systems 	15
<p>Heavy Vehicle On-Road Cab and Body Control Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > heavy vehicle on-road cab safety systems > heavy vehicle on-road cab comfort systems > heavy vehicle on-road cab driver control systems > heavy vehicle on-road body control systems 	15

Heavy Vehicle On-Road Telematics and Hybrid Systems	15
<ul style="list-style-type: none"> > Describe the process to diagnose and repair heavy vehicle on-road telematic systems and high voltage systems > 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 <ul style="list-style-type: none"> > 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 <ul style="list-style-type: none"> > 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 <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > 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 <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > 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 <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > 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 <ul style="list-style-type: none"> > 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 <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > heavy vehicle plant and equipment clutches > heavy vehicle plant and equipment transmissions > Apply precautionary measures to servicing and repairs of clutch and transmission systems 	15

<p>Plant and Equipment Drivelines and Final Drive Assemblies</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > heavy vehicle plant and equipment mechanical drivelines > heavy vehicle plant and equipment mechanical final drives > Apply precautionary measures to servicing and repairs of driveline systems 	15
<p>Plant and Equipment Hydraulic Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > 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 > Apply precautionary measures to servicing and repairs of suspension and chassis systems 	20
<p>Plant and Equipment Suspension, Chassis and Track Drive Undercarriage Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > plant and equipment suspension and chassis systems > plant and equipment track drive undercarriage systems > Apply precautionary measures to servicing and repairs of suspension and chassis systems 	15
<p>Plant and Equipment Steering Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > plant and equipment single and/or multi-axle steering systems > plant and equipment on tracks and tyres > Apply precautionary measures to servicing and repairs of steering systems 	15
<p>Plant and Equipment Starting, Charging and Lighting Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > plant and equipment starting systems > plant and equipment charging systems > plant and equipment lighting systems 	15
<p>Plant and Equipment Brake Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > plant and equipment pneumatic brake systems > plant and equipment hydraulic brake systems > Apply precautionary measures to servicing and repairs of foundation braking systems 	15
<p>Plant and Equipment Attached Equipment</p> <ul style="list-style-type: none"> > Service and repair plant and equipment attached, equipment couplings and controls > Apply precautionary measures to fitment and removal of attached/auxillary equipment for service or repair 	15
<p>Plant and Equipment Machine Electronic Control Systems and Electronic Safety Systems</p> <ul style="list-style-type: none"> > Service and repair <ul style="list-style-type: none"> > plant and equipment safety and operator protection systems > plant and equipment cab comfort systems > plant and equipment electronic control systems for machine operation 	15

Plant and Equipment Onboard Network Systems, Telematics and Autonomous Machine Operation > Demonstrate knowledge of onboard network systems > Demonstrate knowledge of automated machine, telematics and autonomous machine operation	15
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.

Student loans and allowances with TTAF

Whilst this programme is free for you to study via the Trades and Apprenticeship Fund (TTAF), this 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 by yourself if that is possible for you or by applying for a loan or allowance through Studylink.

It is important to apply for your student loan/allowance at the same time as you apply for this programme, due to the length of time Studylink take to process. Loan/allowance applications can be cancelled at any time if you decide to withdraw your programme application or if it is unsuccessful.

- > For information about student loans and allowances please visit the Studylink website

Disclaimer

While every effort is made to ensure that this sheet is accurate, Otago Polytechnic reserves the right to amend, alter or withdraw any of the contained information. The fees shown in this document are indicative ONLY. Both domestic and international fees are subject to change and are dependent on the development and implementation of Government policies. Please note that additional fees may from time to time be required for external examination, NZQA fees and/or additional material fees.