

# LABORATORY SCIENCE AND ENVIRONMENT

Course	Intake details	Admission	Employment opportunities	Further study
<p><b>Pathology</b></p> <p><b>Certificate IV in Pathology</b></p> <p>CRICOS 068521B, Course HLT41807</p>	<p>6 Months Frankston February/July</p> <p>\$5,200 + \$195 MF</p>	<p>Equivalent Academic IELTS 5.5 Equivalent Year 12</p>	<p>Specimen collector Specialist specimen collector Advanced testing and collection officer Team leader/supervisor Pathology collector</p>	<p>Diploma of Nursing* at Chisholm Diploma of Laboratory Technology at Chisholm</p> <p>*subject to meeting admission requirements and availability</p>
<p><b>Laboratory Technology</b></p> <p><b>Diploma of Laboratory Technology (Biological/ Ecological Testing and Chemical Testing)</b></p> <p>CRICOS 073056B, Course MSL50109</p> <p>Duration includes Certificate IV in Laboratory Techniques (Biological Testing and Chemical Testing)</p>	<p>2 Years Frankston February</p> <p>\$10,400 Yr 1 + \$150 MF \$14,800 Yr 2 + \$130 MF</p> <p>Additional: approx. \$180 text books</p>	<p>Equivalent Academic IELTS 5.5 Equivalent Year 12, passes in Maths Science Minimum 18 years old, Police check and working with children check (to be obtained in Australia)</p>	<p>Laboratory technical officer Quality control laboratory Technician/Technical officer Team leader Laboratory technician assistant at a school/ college /university</p>	<p>Relevant university degree studies</p>
<p><b>Certificate IV in Laboratory Techniques (Biological Testing and Chemical Testing)</b></p> <p>CRICOS 073055C, Course MSL40109</p>	<p>1 Year Frankston February</p> <p>\$10,400 + \$150 MF</p> <p>Additional: approx. \$180 text books</p>	<p>Equivalent Academic IELTS 5.5 Equivalent Year 12, passes in Maths Science Minimum 18 years old, Police check and working with children check (to be obtained in Australia)</p>	<p>Laboratory assistant Quarantine inspector's assistant Research assistant Chemical scientist assistant Laboratory technician assistant at a school/ college/university</p>	<p>Diploma of Laboratory Technology (Biological/ Ecological Testing and Chemical Testing) at Chisholm</p>

\*MF Materials fee



## Overview

This qualification provides students with the skills to undertake the collection of blood and other pathology specimens for routine and specialised testing. Employees working at this level are expected to have an in depth knowledge and may work with clients with complex needs.

A pathology collector works within a clinical setting to take and prepare specimens from patients that will be examined and tested in a laboratory. They collect blood, body fluids and swabs from patients who have been referred from doctors or specialists. It is the responsibility of the pathology collector to interpret the doctor's requests, collect the appropriate specimens, and then prepare them for transport to the laboratory. Pathology collectors are employed in pathology practices, hospitals and medical centres.

The course covers skills development in a range of areas including blood collection, pathology specimen collection, legal and ethical requirements, medical terminology and infection control.

- Use basic medical terminology
- Comply with infection control policies and procedures
- Apply first aid
- Contribute to organisational effectiveness in the health industry
- Show leadership in health technical work
- Implement and monitor compliance with legal and ethical requirements
- Perform blood collection
- Collect pathology specimens other than blood
- Perform blood collection for specialised testing
- Collect pathology specimens other than blood for specialised testing
- Operate efficiently within a pathology and specimen collection environment
- Identify and respond to clinical risks associated with pathology specimen collection
- Perform electrocardiography (ECG)
- Assist with pathology procedures
- Perform specialist and technically difficult collections
- Undertake home visits
- Occupational health and safety
- Communicate and work effectively in health

This course provides training in paraprofessional support in a range of scientific laboratories. The course encompasses a range of skills, techniques and processes so that graduates are flexible, adaptable and competent to meet the technological and administrative demands of the workforce. Chisholm offers excellent laboratory facilities, which simulate the conditions found in industry. A 2-week industry work experience placement is undertaken during course.

Note: Some evening classes may be required

- Implement and monitor environmentally sustainable work practices
- Provide information to customers
- Analyse data and report results
- Maintain laboratory/field safety
- Assist in the maintenance of reference materials
- Prepare culture media
- Perform microbiological tests
- Capture and manage scientific images
- Apply routine chromatographic techniques
- Perform molecular biology tests/procedures
- Perform laboratory-based ecological techniques
- Apply routine spectrometric techniques
- Maintain instruments and equipment
- Apply routine electrometric techniques

This course provides broad-based training appropriate to technical support staff in all aspects of laboratory operations including safety, equipment, analytical instrumentation, computing, chemistry and biological techniques. Chisholm offers excellent laboratory facilities, which simulate the conditions found in the industry. A 1-week industry work experience placement is undertaken during the course.

Note: Some evening classes may be required

- Participate in environmentally sustainable work practices
- Perform standard calibrations
- Communicate with other people
- Plan and conduct laboratory/field work
- Process and interpret data
- Use laboratory application software
- Participate in laboratory/field workplace safety
- Receive and prepare samples for testing
- Apply quality system and continuous improvement processes
- Obtain representative samples in accordance with sampling plan
- Perform microscopic examination
- Perform basic tests
- Perform aseptic techniques
- Prepare, standardise and use solutions
- Perform chemical tests and procedures
- Perform physical tests
- Perform biological procedures
- Collect routine site samples
- Handle and transport samples or equipment
- Prepare practical science class demonstrations

# LABORATORY SCIENCE AND ENVIRONMENT

Course	Intake details	Admission	Employment opportunities	Further study
<b>Science</b> <b>Certificate IV in Science</b>  Duration includes Certificate III  CRICOS 065031M, Course 21858VIC	1 Year Frankston February  \$10,400  Additional: approx. \$180 text books	Equivalent Academic IELTS 5.0  Equivalent Year 11, passes in maths and science	Entry level employment in health sciences, laboratory technology.	Diploma of Laboratory Technology at Chisholm Advanced Diploma of Computer Systems Engineering Diploma of Nursing* at Chisholm  *subject to meeting admission requirements and availability
<b>Certificate III in Science</b>  CRICOS 065030A, Course 21857VIC	6 Months Frankston February/July  \$5,200  Additional: approx. \$180 text books	Equivalent Academic IELTS 5.0  Equivalent Year 11, passes in maths and science	Entry level employment in health sciences, or laboratory technology.	Diploma of Laboratory Technology at Chisholm Certificate IV in Science at Chisholm Advanced Diploma of Computer Systems Engineering Diploma of Nursing* at Chisholm  *subject to meeting admission requirements and availability
<b>Horticulture</b> <b>Certificate IV in Horticulture</b>  CRICOS Pending, Course AHC40410	1 Year Cranbourne February/July  \$10,400	Equivalent Academic IELTS 5.5 Equivalent Year 11	Horticulturist Horticulture supervisor Landscape gardener Gardener Nursery worker	Related university degree studies

\*MF Materials fee

## Overview



The Certificate III and Certificate IV in Science courses are preliminary programs designed to prepare students for diploma or degree courses in sciences and health sciences, or entry level work in laboratory science, health science and computing technology. It provides foundation level studies in biology, chemistry, physics, mathematics, communications and computing. The course not only gives students tangible pathways into other TAFE courses, but also ensures that the mathematics and science undertaken meets the requirements for a number of industries. On completion of the course, students may enter a number of certificate and diploma courses, or nursing and science degrees.

The Certificate III covers cell biology, anatomy and physiology, simple dissections, scientific research, kinematics, atomic structure and bonding. The Certificate IV further develops knowledge built in the Certificate III and introduces genetics, ecology, electrical testing and dynamics and conservation principles.

This is a preliminary program designed to prepare students for a range of diploma or degree courses in sciences and health sciences, or entry level work in laboratory science, health science and computing technology. It provides foundation level studies in biology, chemistry, physics, mathematics, communications and computing.

This course is designed to provide participants with the skills and knowledge to gain employment in the horticulture industry. The course provides knowledge in: developing crop regulation programs, planning propagation programs, promoting plant health, planning onsite irrigation systems and preparing and applying chemicals.

There is a strong emphasis on practical applications, skills and knowledge for the horticulture industry. Graduates have the potential to develop career pathways in horticulture, conservation and landscaping, to a supervisory level. All students must be prepared to work outdoors in all weather conditions. Applicants must be willing to participate in field-based, off-campus activities and must conform to occupational health and safety dress requirements, e.g. work boots.

- Introductory genetics
- Ecology
- Organic chemistry and properties of materials
- Chemical reactions
- Conduct routine electrical tests
- Apply dynamics and conservation principles
- Apply mathematical techniques in a manufacturing, engineering or related environment
- Apply mathematical techniques to scientific contexts
- Work mathematically with statistics and calculus
- Job seeking
- Present and apply workplace information
- Send and receive information using web browsers and email

- Cell biology
- Conduct simple activities in a biological science laboratory
- Anatomy and physiology
- Conduct simple dissections
- Atomic structure and bonding
- Stoichiometry and solution chemistry
- Conduct and present simple scientific research
- Waves and optics
- Kinematics
- Use a range of techniques to solve mathematical problems
- Evaluate pathway options, design a learning plan and compile a portfolio
- Engage with a range of complex texts for learning purposes
- Create a range of complex texts for learning purposes
- Operate a personal computer
- Operate computing packages
- Participate in laboratory/field workplace safety

- Recommend plants and cultural practices
- Design plant displays
- Plan a plant establishment program
- Control weeds, pests and/or diseases
- Maintain occupational health and safety processes
- Plan an onsite irrigation system - installation and construction work
- Plan a growing program
- Plan a propagation program
- Manage a controlled environment
- Manage plant cultural practices
- Specify plants for landscapes
- Develop a soil health and plant nutrition program

# LABORATORY SCIENCE AND ENVIRONMENT

Course	Intake details	Admission	Employment opportunities	Further study
<b><i>Conservation and Land Management</i></b> Certificate IV in Conservation and Land Management CRICOS Pending, Course AHC40910	1 Year Cranbourne February/July \$10,400	Equivalent Academic IELTS 5.5 Equivalent Year 11	Bushland crew leader Facilitating environmental groups and projects Green corps supervisor Landcare or coastcare coordinator Catchment management authority program coordinator	Related university degree studies
<b><i>Renewable Energy</i></b> <b>Certificate IV in Renewable Energy</b> CRICOS 074497B, Course UEE41610	1.5 Years Berwick February/July \$10,400 pa + \$450 MF	Equivalent Academic IELTS 5.5 Equivalent Year 11	Designer and/or installer of renewable energy systems Supervisor of renewable energy organisation Renewable energy adviser or consultant to government departments or municipalities Renewable energy sales career	Related university degree studies
<b>Certificate III in Renewable Energy – Extra Low Voltage (ELV)</b> CRICOS Pending, Course UEE41610	1 Year Berwick February/July \$10,400 + \$225 MF	Equivalent Academic IELTS 5.5 Equivalent Year 11	Designer and/or installer of renewable energy systems Installer of renewable energy installations Renewable energy adviser or consultant to domestic and small commercial organisations Renewable energy sales career	Certificate IV in Renewable Energy

\*MF Materials fee

## Overview

This program is designed to provide students with the skills and knowledge to gain employment in the conservation and land management field. It provides knowledge in environmental issues, biodiversity, habitat restoration, community facilitation and project management. Students have the opportunity to go on a camp to French Island to undertake a range of practical exercises.

All students must be prepared to work outdoors in all weather conditions. Applicants must be willing to participate in field-based, off-campus activities and must conform to occupational health and safety dress requirements, e.g. work boots.

In the rapidly growing field of renewable energy, graduates of this course will be well positioned to take up exciting and sustainable employment opportunities. The qualification provides training for solar industry accreditation and is recognised by the Clean Energy Council. The course teaches the skills and knowledge needed to be able to analyse, diagnose, design, install, commission and maintain a broad range of renewable energy systems. Renewable energy technology includes photovoltaics, wind power, hydro power, solar-thermal energy and the various types of biomass energy sources, as well as energy efficient building design. The course also develops a broad base of skills including electrical theory, engineering fundamentals, physical science, computing and design, business skills and sustainable practices.

Students will be at the forefront of the boom in renewables and sustainable living, with employment options as designers, installers, researchers and consultants, as well as opportunities in a vast range of niche areas that are currently developing.

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- Cost a project
- Report on a project
- Devise and conduct community consultations
- Produce maps for land management purposes
- Monitor biodiversity
- Plan and develop interpretive activities
- Plan the implementation of revegetation works

- Carry out basic repairs to renewable energy apparatus by replacement of components
- Solve basic problems in photovoltaic energy apparatus
- Source and purchase materials/parts for installation or service jobs
- Deliver a service to customers
- Use basic computer applications relevant to a workplace
- Diagnose faults in renewable energy control systems
- Solve problems in stand-alone renewable energy systems
- Install stand alone photovoltaic power systems
- Design stand-alone renewable energy systems

- Solve basic problems in photovoltaic energy apparatus
- Use basic computer applications relevant to a workplace
- Participate in environmentally sustainable work practices
- Diagnose faults in renewable energy control systems
- Solve problems in stand-alone renewable energy systems
- Install stand-alone photovoltaic power systems
- Solve problems in electromagnetic circuits
- Maintain and repair facilities associated with remote area essential services operation
- Maintain operation of remote area power plant

- Collect and manage data
- Manage wildfire hazard reduction programs
- Collect and classify plants
- Develop a strategy for the management of target pests
- Maintain occupational health and safety processes

- Solve problems in electromagnetic circuits
- Solve problems in single and three phase low voltage circuits
- Design grid connected power supply systems
- Solve problems in electromagnetic circuits
- Solve problems in wind energy conversion systems
- Design wind energy conversion systems rated to 10 kW
- Install small wind energy conversion systems for stand-alone applications
- Compile and produce an electrotechnology report
- Participate in development and follow a personal competency development plan

- Conduct checks in the demand side use of remote area power supplies
- Plan periodic maintenance schedules of remote area power supplies
- Install and set up grid connected photovoltaic power systems
- Install, configure and commission grid connected photovoltaic power systems
- Attend to breakdowns in remote area power supplies
- Install and set up micro-hydro systems
- Install small wind energy conversion systems for stand-alone applications
- Assemble and set up photovoltaic apparatus in a domestic dwelling

