

# Electronics, Engineering and Manufacturing



## COURSES

Advanced Diploma of Electronics Engineering

Certificate III in Engineering (Fabrication Trade) **NEW**

Diploma of Engineering Technology and Certificate III in Engineering (Fabrication Trade) **NEW**

Diploma of Engineering Technology and Certificate III in Engineering (Mechanical Trade)

Advanced Diploma of Engineering Technology (Mechanical Design)

Advanced Diploma of Engineering Technology (Robotics and Mechatronics)



## ADVANCED DIPLOMA OF ELECTRONICS ENGINEERING

(UTE60399)

CRICOS: 044449C

2 years

### OVERVIEW

This course is undergoing change in 2008/2009. Please check the Chisholm website [www.chisholm.edu.au](http://www.chisholm.edu.au) (<http://www.chisholm.edu.au/>) before submitting your application, for up to date information regarding to changes in the course title, content and other.

Advanced Diploma will have the knowledge and skills to confidently work in the electronics industry. Graduates are highly sought after in the manufacturing industry, sales, service and electronic design industries. The course develops skills in project management, prototyping, research and technical report writing. Hands-on practical work is integrated throughout the program as students build electronics projects. Students also gain work experience by completing the workplace simulation components of the course giving them an insight into the electronics industry.

### STUDY AREAS

- Electrical theory and circuit analysis
- Electronic workshop skills/hand soldering
- Engineering management
- Printed circuit board development
- Digital electronics
- Electronic circuit drafting/simulation
- Analogue electronics and amplifiers
- Alternative energy systems
- DC power supplies
- Optical communications
- Gate array technologies
- Medical electronics
- Measuring instruments
- Television and RF principles
- Audio electronics
- Antenna systems
- Digital design
- Programming
- Microprocessor applications
- Single chip micro-controllers
- Industrial design project
- Engineering mathematics

### ASSESSMENT METHODS

Examination, individual assignments and assessment of practical competencies.

### TEACHING METHODS

Supervised classroom learning, supervised practical components, work experience simulations.

### EMPLOYMENT OPPORTUNITIES

Engineering Assistant, Technical Officer, Technician.

### FURTHER EDUCATION OPPORTUNITIES

Major Australian universities may grant substantial credits in their related Degree/Bachelor programs to graduates of this course. Bridging subjects are available in the second year for students intending to study Degree/Bachelor programs.

### ENTRY REQUIREMENTS

**IELTS 5.5 or equivalent**

**Year 12 or equivalent**

### CAMPUS AND INTAKE

**Campus: Dandenong**

**Course Commences: February/July**

### FEES

**2009 Fee Payable: AUD\$9,700 per year**



## CERTIFICATE III IN ENGINEERING (FABRICATION TRADE)

NEW

(MEM30305)

CRICOS: 065403K

1 year

### OVERVIEW

This course provides broad based training in the skills and knowledge required of a tradesperson in the fabrication industry. Specialist areas include sheet metal, boiler making, structural steel and welding. The certificate enables a trade classification of engineering tradesperson.

### STUDY AREAS

- Fabrication methods
- Processes and planning
- Operation of fabrication equipment
- Welding
- Marking out and pattern development techniques
- Mechanical cutting processes
- Metal fabrication
- Occupational health and safety
- CAD

### ASSESSMENT METHODS

There is a continuous assessment after the completion of each unit; by tests,

internal exams, individual assignments and assessment of practical projects.

### TEACHING METHODS

Supervised workshop learning, lectures, self-paced learning and supervised project based learning.

### EMPLOYMENT OPPORTUNITIES

Engineer, Sheet Metal Tradesperson, Structural Steel Tradesperson, Welder. Please note this is not an automotive course.

### FURTHER EDUCATION OPPORTUNITIES

Diploma in Engineering in the fields of Mechanical Design or Robotics and Mechatronics.

### ENTRY REQUIREMENTS

**IELTS 5.5 or equivalent**

**Year 12 or equivalent**

### CAMPUS AND INTAKE

**Campus: Dandenong**

**Course Commences: Feb/July**

**First intake is July 2009**

### FEES

**2009 Fee Payable: AUD\$12,200**



## DIPLOMA OF ENGINEERING TECHNOLOGY

NEW

(21621VIC)

CRICOS: 0618845

1 year

## AND CERTIFICATE III IN ENGINEERING (FABRICATION TRADE)

(MEM30505)

CRICOS: 065403K

1 year

### OVERVIEW

This course provides the broad based training required by a tradesperson in the Metal Fabrication Industry. Successful completion of this program will enable students to gain specialist skills in sheet metal, boilermaking, and structural steel fabrication.

The Diploma of Engineering Technology covers the design, manufacture, maintenance of mechanical equipment and systems using metal fabrication technology. Use of Computer Aided Design software is a core part of this program

## STUDY AREAS

- Strength of Materials
- Structural Fabrication
- Manufacturing Systems
- Metallurgy Principles
- Solving Engineering Problems
- Science
- Computer Aided Drafting
- Engineering Computing
- Mathematics for Engineering
- Occupational Health and Safety

## ASSESSMENT METHODS

There is continuous assessment at the completion of each unit.

Assessment tasks may be practical projects, assignments and written examinations.

## TEACHING METHODS

Supervised workshop, laboratory classes and self paced student projects.

## EMPLOYMENT OPPORTUNITIES

Fabrication trades people are in high demand but successful graduates will have higher level technician skills enabling them to apply theoretical concepts to solve complex technical engineering problems.

## ENTRY REQUIREMENTS

**IELTS 5.5 or equivalent**

**Year 12 or equivalent**

## CAMPUS AND INTAKE

**Campus: Dandenong**

**Course Commences: Feb/July**

**First intake is July 2009**

## FEES

**2009 Fee Payable:**

**AUD\$12,200 per year**



**DIPLOMA OF  
ENGINEERING  
TECHNOLOGY**

**(21621VIC)**

**CRICOS:061884J**

**1 year**

**AND  
CERTIFICATE III IN  
ENGINEERING (MECHANICAL  
TRADE)**

**(MEM30205)**

**CRICOS:061885G**

**1 year**

## OVERVIEW

Would you like to build machinery that is used for industrial, public and commercial purposes? You could manufacture

products such as industrial machinery and refrigeration, mining equipment, agricultural machinery, elevators, escalators and engines.

Mechanical Engineering keeps our country running by manufacturing and maintaining the moving parts of the machines and equipment that are essential to all of our industries. A trade in Fitting and Machining, Toolmaking, Machining, Fitting will get you started in a great career in Mechanical Engineering.

Machinists set up and operate tools and computer controlled machines to cut and shape steel and other materials to manufacture parts or machinery. Fitters assemble and install machinery. Toolmakers make the precision equipment and tools used in manufacturing. There are many opportunities at a technician or professional level as well.

The Manufacturing industry provides career opportunities for people with all sorts of skills and levels of ability.

### Trade

Doing the Certificate III is a great start to your career, particularly if you like practical, hands on work. Mechanical Trade Tradespeople are in high demand in the Manufacturing Industry and can command high wages.

### Technician

As the industry relies more and more on high tech machines and equipment, the need for more highly skilled technicians grows. After you have completed the Certificate III you will then undertake the Diploma and become a technician or supervisor.

The 2 year course provides the academic training that an Australian tradesperson receives as well as giving the educational requirements to work in the manufacturing industry. This course comprises of 1,600 hours of study and practical experience.

## STUDY AREAS

Year 1 Certificate III in Engineering (Mechanical Trade)

- Engineering measurements and computations
- Marking out and planning tasks
- OH&S and safety systems
- Using hand and power tools
- Machining and lathe operations
- Technical drawing
- Quality assurance processes
- Computer technology and operations
- Welding operations
- Milling and grinding operations
- Pneumatics and hydraulics
- Fluid power control systems and design
- CAD design
- Robotics and mechatronics

- Science, materials and mathematics
- Analogue and digital electronics
- Electronics and industrial PLC control

Year 2 – Diploma of Engineering

Technology

- CNC programming
- Computer Aided Drafting
- Drawing Materials
- Workshop processors
- Mechanical and Tool design

## ASSESSMENT METHODS

There is continuous assessment after the completion of each unit, by tests, internal exams, individual assignments and assessment of practical projects.

## TEACHING METHODS

Supervised classroom learning, lectures, self-paced learning and supervised project based learning.

## EMPLOYMENT OPPORTUNITIES

Upon successful completion of the course and with relevant industrial experience students may apply for Australian tradesperson's rights or work as Engineering Assistant, Technician or Engineering Technical Officer in a wide range of manufacturing industries

Your Certificate III qualification will meet the requirement for application for recognition by Trades Recognition Australia (TRA) for occupations currently listed on the MODL (as at 05/08) such as: Fitter, Metal Machinist, General Mechanical Engineering Tradesperson and Toolmaker.

## FURTHER EDUCATION OPPORTUNITIES

Advanced Diploma of Engineering Technology

## ENTRY REQUIREMENTS

**IELTS 5.5 or equivalent**

**Year 12 or equivalent**

## WORKING EXPERIENCE SUPPORT

Chisholm will assist you to link to prospective employers to gain employment or work experience.

## CAMPUS AND INTAKE

**Campus: Dandenong**

**Course Commences: February/July**

## FEES

**2009 Fee Payable:**

**AUD\$12,325 per year**



## ADVANCED DIPLOMA OF ENGINEERING TECHNOLOGY (MECHANICAL DESIGN)

(21622VIC)  
CRICOS: 062843K  
2 years



V I C T O R I A  
**Engineers  
Australia**

### OVERVIEW

This two-year course provides high-level training for the Engineering industry at the engineering associate level. Work options are available in the fields of manufacturing, mechanical, CAD/CAM, fluid power, toolmaking (press tools or plastic mould making) and computer numerical control (CNC). The course covers computer aided drafting, Numerical control processes, Computer aided manufacture, Fluid power, Workshop processes and Mechanical and tool design subjects.

### AREAS OF STUDY

- Engineering Maths A and B
- Science
- Report writing and presentation skills
- Engineering computing
- Engineering graphics
- Engineering management
- Project management
- Calculus
- Advanced quality concepts
- Advanced dynamics
- Advanced machine design
- Advanced strength of materials
- Design for manufacture
- Electro-fluid control systems
- Engineering drawing (structural and mechanical)
- Fluid mechanics
- Fluid power systems project (2 subjects)
- Industrial fluid power
- Introductory strength of materials
- Machine design
- Technical Areas
- Mechanical
- Manufacturing – CAD/CAM
- Fluid power
- Maintenance
- Computer Aided Drafting (CAD)

### ASSESSMENT METHODS

There is continuous assessment after the completion of each unit, by tests, internal exams, individual assignments and assessment of practical competencies and project based learning and project based learning.

### TEACHING METHODS

Supervised classroom learning, lectures, self-paced learning, supervised practical components.

### EMPLOYMENT OPPORTUNITIES

Engineering Assistant, Technician or Engineering Technical officer in a wide range of industries.

### FURTHER EDUCATION OPPORTUNITIES

Engineering degree with approximately one year of credits.

### ENTRY REQUIREMENTS

**IELTS 5.5 or equivalent**  
**Year 12 or equivalent**

### CAMPUS AND INTAKE

**Campus: Dandenong**  
**Course Commences: February**

### FEES

**2009 Fee Payable: AUD\$9,700 per year**  
**Additional Costs: Approximately AUD\$135 for additional items**



## ADVANCED DIPLOMA OF ENGINEERING TECHNOLOGY (ROBOTICS AND MECHATRONICS)

(21622VIC)  
CRICOS: 057756G  
2 years



V I C T O R I A  
**Engineers  
Australia**

### OVERVIEW

This two year course provides high-level training for the manufacturing industry at the engineering associate level.

### STUDY AREAS

- Modern manufacturing robotics
- Electro-mechanical devices
- Engineering maths
- Sciences
- Report writing and presentation skills
- Engineering computing
- Engineering drawing
- Computer Aided Drafting (CAD)
- Mechatronics
- Industrial PLC control
- Workshop practices
- Industrial automation (fluid power)

### ASSESSMENT METHODS

There is continuous assessment after the completion of each unit, by tests, internal exams, individual assignments and assessment of practical projects.

### TEACHING METHODS

Supervised classroom learning, lectures, self-paced learning and supervised project based learning.

### EMPLOYMENT OPPORTUNITIES

Upon successful completion of the course students may apply for positions as Engineering Assistant, Technician or Engineering Technical officer in a wide range of manufacturing industries.

### FURTHER EDUCATION OPPORTUNITIES

Engineering degree with approximately one year of credits.

### ENTRY REQUIREMENTS

**IELTS 5.5 or equivalent**  
**Year 12 or equivalent**

### CAMPUS AND INTAKE

**Campus: Dandenong**  
**Course Commences: February**

### FEES

**2009 Fee Payable: AUD\$9,700 per year**  
**Additional Costs: Approximately AUD\$135 for additional items**