

MEM20422 Certificate II in Engineering Pathways &

ICT30120 Certificate III in Information Technology (Skills Generation)

Build and Code a Robot Project

Vocational Education Training

VET
(VETiS)



Overview

Skills Generation's offering attached to the MEM20422 Certificate II in Engineering Pathways is forward thinking and aims to educate your students about emerging and increasingly more prominent technologies by integrating those exact technologies into the qualification's curriculum. While Skills Generation focuses on the future and ensuring your students are prepared for the changing landscape of engineering and manufacturing fields, we are also focussed on these disciplines' roots.

Our MEM20422 qualification firstly lays the groundwork, introducing students to the foundations of engineering and manufacturing – correct use of hand and power tools, appropriate understanding of PPE, proper welding technique etc. – before having your students then apply this foundational knowledge in a variety of projects including the construction of their own individual drone.

The Skills Generation MEM20422 package is also flexible and can be manipulated in several ways to either stand alone as an introduction to engineering for a new age; or can be integrated easily to fit within your school's already established manual arts curriculum.

VETiS Eligibility Requirements

The MEM20422 Certificate II in Engineering Pathways is funded by DESBT (Queensland Department of Education, Small Business and Training). Students may be eligible to utilise their VETiS funding opportunity if they meet the following criteria:

Students are either Australian or New Zealand Citizens or Permanent Residents

Students are in either Year 10, 11 or 12 when they participate in the course

Students have not previously utilised their VETiS funding

Please speak with the School's VET Coordinator to check VETiS eligibility.

Course Entry Requirements

Students must have demonstrated satisfactory level in English and Maths in a pre course LLN Test.

Assessment Types

The course contains both theory and practical assessments on a unit by unit basis. Theory assessments are open-book, comprising of multiple choice and short answer questions.

The Skills Generation Build and Code a Robot Project provides students with the skills and knowledge to integrate and apply traditional engineering skills to emerging technologies. Valuing the words of physicist Richard Feynman, "what I cannot create, I do not understand" the project provides students with an understanding of engineering through the construction of an individual robot.



Course Delivery Timeline

TERM 1

During Term 1, students are introduced to the basics of engineering, welding and occupational health and safety through the following project:

Project One: Build a Cube (Introduction to Engineering)

Students will work using hand tools, power tools and workshop machines to build the metal cube.

Units of competency completed through this project include: MEM13014A Apply principles of occupational health and safety in the work environment

MEM16006A Organise and communicate information

MEMPE002A Use electric welding machines

MEMPE006A Undertake a basic engineering project

MEM18002B Use power tools/hand held operations

MEMPE001A Use engineering workshop machines

TERM 2 & 3

During Terms 2 and 3, students work individually to build the DJI Robomaster.

Project Two: Build the DJI Robomaster

Units of competency completed through this project include: MEM16008A Interact with computing technology

MEM18001C Use hand tools

TERM 4

During Term 4, students will commence testing the Robomaster.

Units of competency completed through this term include: MEMPE007A Pull apart and re-assemble engineering mechanisms

MSAPMSUP106A Work in a team

Additional Units to be completed during this term include: MSAENV272B Participate in environmentally sustainable work practices

MEMPE005A Develop a career plan for the engineering and manufacturing industry



Follow on qualification: ICT30120 Certificate III in Information Technology

Overview

Students who successfully complete their MEM20422 Certificate II in Engineering Pathways are eligible to enrol and undertake the ICT30120 Certificate III in Information Technology as a follow-on course free of charge. Where students learned how to build their robots in MEM20422, in this qualification they will learn how to code and program their robots as part of a broad introduction to the IT industry that provides them with the foundational skills and knowledge critical for pursuing a career in the IT industry. Some of the skills and knowledge a student will acquire from the course include critical thinking, technical analysis program administration and an introduction to a number of programming languages. It will also introduce students to some of the latest developments in IT, providing both theoretical understanding and practical experience with them.

Course Units

- BSBCRT301 Develop and extend critical and creative thinking skills
- BSBXCS303 Securely manage personally identifiable information and workplace information
- BSBXTW301 Work in a team
- ICTICT313 Identify IP, ethics, and privacy policies in ICT environments
- ICTPRG302 Apply introductory programming techniques
- ICTSAS305 Provide ICT advice to clients
- ICTWEB304 Build simple web pages
- ICTWEB305 Produce digital images for the web
- ICTWEB306 Develop web presence using social media
- ICTICT312 Use advanced features of applications
- ICTSAS308 Run standard diagnostic tests
- ICTSAS309 Maintain and repair ICT equipment and software



Course Fees

MEM20422 Certificate II in Engineering Pathways

- VETiS Funded Student FREE
- Fee For Service Student \$4,350.00
- Fee For Service Student (Discounted Rate)* \$1,200.00

ICT30120 Certificate III in Information Technology

- Follow on Student (Continuing on from MEM20422) \$100.00
- Fee For Service Student \$4,350.00
- Fee For Service Student (Discounted Rate)** \$1,200.00

Please speak with the School's VET Coordinator to check the student's VETiS eligibility.

** to be eligible for this discounted rate, fee-for-service students must be enrolled in a class of 15 or more VETiS funded students undertaking the MEM20422 qualification.*

*** to be eligible for the discounted rate, fee-for-service students must be enrolled in a class of 15 or more previously VETiS funded students undertaking the ICT30120 qualification.*