engineering

Swinburne University of Technology - Wantirna

Course Code & Name:		**Certificate II in Engineering Studies** **22470VIC** Current for 2020
Course Aims:		VET in Schools Engineering Studies is ideal for students who want a hands-on practical applied learning study that contributes to VCE or VCAL. Certificate II provides students with practical skills and theoretical knowledge to undertake an apprenticeship in the engineering fabrication trade covering areas including welding, machine processing, fabrication techniques, using power tools and computer software programs for engineering related work activities. Students are required to plan projects, produce engineering sketches and drawings, and fabricate metal components and products
Course Delivery	**Location and Times:**	**Year 1:** Swinburne University of Technology, 369 Stud Road, Wantirna Wednesday 12:30pm-5:30pm **Year 2:** Swinburne University of Technology, 369 Stud Road, Wantirna Wednesday 12:30pm-5:30pm
	Mode of Delivery:	Classroom/workshop based
	Duration:	2 years' part time

On successful completion of this program the student will achieve:		
Credit towards VCE/VCAL	**VCE:**	**VCE:** Students who complete the VCE VET Engineering program will be eligible for up to four units of credit towards their VCE, two units at Units 1&2 level and a Units 3&4 sequence. **ATAR Contribution:** Students wishing to receive an ATAR contribution for the Units 3&4 sequence of Program 2: Certificate II in Engineering Studies must undertake scored assessment for the purpose of achieving a study score. This study score can contribute directly to the ATAR, either as one of the student's best four studies (the primary four) or as a fifth or sixth study. **Note:** Where a student elects not to receive a study score for VCE VET Engineering Studies, no contribution to the ATAR will be available.
	VCAL:	This program contributes to the Industry Specific Skills Strand of VCAL and may also contribute to the Work Related Skills Strand of VCAL.
	Qualification:	A Victorian recognised qualification: **22470VIC - Certificate II in Engineering Studies**

Additional Requirements/ Information:	**Name of RTO & Provider of Qualification:**	Swinburne University of Technology *(TOID 3059)*
	RTO Student Information:	Please refer to http://www.swinburne.edu.au/policies-regulations/ and www.mullumvetcluster.com.au for student rights & responsibilities on campus.
	OHS / Personal Protective Equipment:	Students must wear full-length cotton drill overalls and steel-capped leather work boots. No bib and brace overalls. Clear lens safety glasses will be supplied.
	Excursions:	TBA
	Work Placement:	A work placement is not required but is strongly recommended.
	Other:	Each 2nd year student will build their own drone as a take home project. **Please note this course is subject to change.**

Units of Competency:

Year 1: Competencies covered in the first year: **22470VIC**

Unit Code	Unit Name	Nominal Hours	Compulsory / Elective
MEM13014A	Apply principles of occupational health and safety in work environment	10	C
MEM18001C	Use hand tools	20	C
VU22329	Report on a range of sectors in the manufacturing, engineering and related industries	30	C
VU22330	Select and interpret drawings and prepare three dimensional (3D) sketches & drawings	20	C
VU20912	Perform basic machining processes	40	C
VU22339	Create engineering drawings using computer aided systems 1st year	60	E
VU22332	Apply basic fabrication techniques	40	C
	1st Year Hours	**220**	

Year 2: Competencies covered in the second year: **22470VIC**

Unit Code	Unit Name	Assessment Plan	Nominal Hours	Compulsory / Elective
MEMPE006A	Undertake a basic engineering project	Portfolio 07	80	C
VU22333	Perform intermediate engineering computations	Product 05	40	C
VU22340	Use 3D printing to create products	Product 05	40	E
VU22338	Configure and program a basic robotic system	Work Performance 01	60	E
		2nd Year Hours	**220**	
		Total hours	**440**	

FUTURE PATHWAYS & OPPORTUNITIES	**Complementary studies:**	• Mathematical Methods • Physics	
	Pathways:	• Certificate III or CIV in Engineering • Engineering apprenticeship – Mechanical, Fabrication, or Electrical Diploma, Advanced Diploma or Higher Ed Engineering qualifications.	
	Possible Future Career Opportunities:	• Automotive Engineering • Boiler Maker • Electrical Engineering • Electrician	• Fitter and Turner • Manufacturing Engineer • Mechanical Engineer • Metallurgical Engineer