COURSE PLAN

Course	Drones – the new literacy: a taster course					
Learn Local Organisation	Warragul and Buchan Neighbourhood Houses					
Teacher	Teresa Mitchell / Evelyn Schmidt	Date	9.5.19	Version	V2

Part 1 – overview

Drones: The New Digital Literacy is a taster course which aims to introduce ACFE priority cohorts to drone technologies and their software attributes, including compliance and regulatory obligations, with a focus on drone technology and STEM as a possible career and employment pathway.

The course will involve applied and contextualised teaching of entry level maths and physics. The students will be required to evaluate and comment on their experiences to develop their communication and interpersonal skills while evaluating their drone activities and relating these back to their observational work experiences. As well as basic drone operations, the students will choose a real-world project in which they will use the drones to produce a 360-degree video, and / or construct a drone. The teacher will encourage a project-based methodology in the class so that learners can work on an authentic challenge of task for the duration of the course.

Hours: This is a 60-hour course that includes 6 hours (10%) of supervised observational work experience, and 10 hours of flight practice, using a simulator in class and integrated with STEM activities.

There is a full set of links and resources available on the SEV Connect Moodle:
https://gippslandlearnlocal.trainingvc.com.au/course/view.php?id=221

Focus and content:
To guide the planning and successful implementation of the technology, we will implement the SOAR model, which covers:

- Safety (ethics and legal use), including CASA regulations.
- Basic Operations (flight and maintenance),
- Active learning (engagement in problem solving), particularly focussing on understanding weather and cloud formations
- Research (practical applications) with a focus on autonomous flight as that is where the future employment opportunities are likely to be.

Supervised observational work experience:
Supervised, observational work experience is an essential part of this course. This work experience is supervised by our Learn Local trainer, conducted as a group, and ideally involves a contract between the LLO and the organisation where supervised work is taking place. It aims to expose our learners to employability skills in a real-world setting. Although opportunities in this field may be more limited, the intention is that our learners will be allocated observational tasks, simulated exercises (e.g. a project of their own) and hands on opportunities where possible.
Priority learner cohorts involved in this program will have the opportunity interact with:
- Centre of Drone Excellence in Warragul
- Drown operator within local government sectors such a forestry, tourism, marketing etc
Please refer to the ACFE work experience guidelines available at:
https://www.education.vic.gov.au/training/providers/learnlocal/Pages/Pre-accredited-Work-Experience.aspx

Planning and consultation. Process undertaken for course development/improvement

The course forms part of a suite of digital technology courses that underpin the 6 skill shortage areas in Gippsland and therefore are more likely to lead to employment and further study outcomes for participants.
It has been developed in direct response to the #Gippslanddigital initiative which falls under the Strengthening Pathways for Adult Learners in Gippsland (SPALG) Project.
Employment opportunities using drones are the future; employment opportunities cover many different industries including film sets, inspecting assets, photography, search and rescue, construction mining, manufacturing, medicine, space and deep ocean exploration, agriculture and drone racing. Research within the communities of Warragul and Buchan has established that there is already a wide interest in drones, both for supporting workplaces and personal applications. WCH has conducted informal research with a group of young people and the majority expressed interest in forming a drone club, for example. East Gippsland Shire is using drones to inspect their various assets on a regular basis.
This course seeks to provide a pathway for adult learners - particularly young adult learners to gain the skills necessary to obtain entry into the accredited courses with a view to gaining employment in this growing field, or to develop their own businesses. It will be supported by the proximity of the Warragul Community House to Lardner Park, which is now the Centre for Drone Excellence - by networking with this organisation it is intended that the pre accredited course being developed will directly feed into its recommended courses. Research indicates that these courses have a heavy reliance on STEM subjects. This course will integrate basic STEM principles and provide a springboard into STEM related courses, something which is currently lacking in pre-accredited delivery.

Prerequisites. Eg computer skills and access, literacy/numeracy levels etc

Learners need a basic to intermediate level of digital literacy, including proficiency including smartphones, apps and tablets.
Learners should be approaching ACSF Level 3 as this level is regarded as the "minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy". (See http://www.bksb.com.au/australian-core-skills-framework/).

Teacher skills. Skills, experience, qualifications needed

Essential:
A teacher or teachers that are proficient in the application of STEM principles and /or has experience is operating drones
Desirable:
Certificate IV in Training and Assessment – TAE40110

Pre-accredited learners *select options below that apply*

☐ people from culturally and linguistically diverse backgrounds and those who require assistance with English as a second language

☒ people who have been marginalised and have not accessed education, training and employment

☒ people who have experienced barriers to education in the past and need intensive support to re-engage with learning

☒ people who have limited access to learning opportunities eg rural

☒ other (please describe below)

Young people who are at risk of disengaging in education.
Early school leavers

Outcomes. What do you want your learners to know and be able to do as a result of the course?

Confidently navigate and operate a small drone.
Follow safely, legal and ethical guidelines in operating a drone.
Gain or extend digital literacy and technology skills by applying STEM knowledge to drone operations.
Gain or extend photography skills by taking pictures and video footage using a drone.
Effectively communicate, network and share information.
Conduct extensive weather observations to ensure a safe and productive flight.

Employability. What employability skills will you address? What strategies will you use to build learners' employability skills?

☒ Speaking and listening

Encourage and foster communication and group discussion in the classroom and webinars to an agreed code of conduct between the trainers and the learners ie; expectations of the learners in their learning environment – what is acceptable and what is not, respecting people's opinions,

☒ Reading and writing

Encourage and foster communication and group discussion using a blog or agreed online platform. Positive feedback to learners on submission of written tasks and activities.

☒ Numeracy

Research activities ie; tasks and activities requiring learners to complete specific STEM tasks and make relevant choices, as well other project based activities related to drone operation and flying.

☒ Teamwork

Trainer led group activities and discussion including, peer feedback, sharing information, thoughts and ideas, brainstorming

☒ Problem solving

Online research activities searching for real work applications for drone activities. Drone fail is usually as a result of operator error. Learners learn to problems solve potential problems before flying, using a simulator.

Initiative and enterprise
☒ Learners take regular weather observations during the duration of the course and can apply these to other parts of their life.

☒ Planning and organising

Tasks and activities requiring learners to plan organise and manage their time as they work through scenarios and activities involving STEM and drone operations.
Collecting and organising data in a blog or Google Drive as a portfolio of their learning.
Regular review of learning goals and employability skills identified in Learner plan part 1
Producing short video as part of the drone operations.

☒ Self management

Completing self-directed STEM and drone tasks and activities.
Regular review of learning goals from Learner plan part 1
Prioritising tasks and activities

☒ Learning

Increasing knowledge and skills in STEM and drone operations
Presentation to demonstrate skills development and understanding of drone use in business and industry.
Reflective writing in blog on skills development and achievement of learning goal.

☒ Technology

Using technology to lift off, fly and land a drone.
Applying OHS procedures to the use of drones

Delivery. What teaching and learning approaches will you use?

Teaching will be face-to-face with online support and will include:

Demonstration of tasks to be completed

Discussions

Group collaboration and project-based learning

Scenarios

Written work such as preparation of checklists

Internet research

Guest speakers both online and in class time

Observational work experiences

Achievement of outcomes. How will you measure the outcomes?

Ability to operate a drone safely and ethically

Successful completion of related STEM tasks.

Observation and verbal questions and answers

Completion of weekly activities and tasks

Learner feedback in Learner Plan Part 2

Evaluation. How will you evaluate the effectiveness of the course and plan improvements?

Learners to complete the Learner Plan part 2

Feedback through blog on a weekly basis as an ongoing evaluation of the learning, course content and activities each week.

Trainers to meet with organisation pre course to determine learner audience and make any adjustments necessary to course curriculum to accommodate learner needs prior to commencement of this course each time it is run.

Regular meeting of trainers with organisation to discuss, review, reaffirm or contingency plan results of continuous feedback from feedback activity and Learner Plan part 2 at completion of course.

External moderation of course.

Acknowledgement. How will you acknowledge what learners have achieved?

Positive reinforcement, comments and feedback

Certificate of Participation

Peer evaluation, feedback and support of each other in tasks associated with drone operations.

Presentation upon course completion

Pathways. Where will this course lead for most learners? How can you provide support?

Internal pathway

This course supports the aims of the of #Gippslanddigital project and could lead to other courses that will provide learners with the knowledge and skills to succeed in online work and learning. Other short courses available will be:

- Virtual and augmented reality to promote your business
- Digital photography
- 360-degree photography
- Digital marketing
- Coding

Other internal pre-accredited course: digital literacy LLN, or vocational tasters.

External pathway

This project seeks to provide a pathway for adult learners - particularly young adult learners- to gain the skills necessary to obtain entry into the accredited courses with a view to gaining employment in this growing field, or to develop their own businesses. It will be supported by the proximity of the Warragul Community House to Lardner Park, which is now the Centre for Drone Excellence - by networking with this organisations it is intended that the pre accredited course being developed will directly feed into its recommended courses.
Potential Pathways are:
• Commercial UAV Pilot's License
• Foundation Year (Science / Engineering)
• Employment opportunities - Software Developer/Technician/ Drone Operators/Tourism/Business Marketing /Professional Drone Racing
Accredited courses include:
• Introduction to Aviation
• Certificate IV in Photography/Video
• AVI30316 Certificate III in Aviation
• Federation Training currently offers Certificate II Aeroskills (mechanical).

Support provided

Resources will be supplied on course completion to assist and support learners in making future career or training pathway decisions, including   a visit from the local Skills and Jobs Centres.
Learners will have access to course materials for the length of the course and are encouraged to develop a portfolio of their work performed throughout the course as well as a repository of any links to or course materials they wish to pursue further post course.

Some options to consider for course planning

Tick any options you plan to use:

How	How	How
Employability *embedding skill development*	**Delivery** *teaching and learning methods*	**Achievement** *ways of gathering evidence*
Embed processes	☐ group presentation and discussion	☒ demonstration
☒ group work and active learning	☒ group and pair activities	☒ questioning and discussion
☐ team projects	☒ demonstration by tutor or learner	☐ interview
☒ problem-based challenges	☒ modelling by tutor or learner	☐ group work
☒ planning, scheduling and monitoring	☐ games	☒ scenario
☐ learning-to-learn modelling	☒ self-directed worksheets or units	☐ case study
☒ computer-based tasks and products	☐ lecture style presentation	☐ problem and solution
Build explicit skills	☐ DVD-based activities	☐ role play
☒ using email, phone and web tools for group tasks	☐ case studies	☒ self assessment
☒ time management	☒ web-based activities	☐ journals
☒ dealing with different opinions	**Add others**	☒ written test
☐ brainstorming and mapping		☒ online quiz
☒ task and project planning		☒ portfolio
☐ work-group collaboration methods		☐ action plan
☒ Internet researching		☐ project
☒ organising learning		☒ research and data collection
☒ decision-making in groups (including meetings)		☒ observation
Add others		**Add others**
		Forum topic discussions

How	Which	Where to
Evaluation _improving the course_	**Acknowledgement** _recognising achievement_	**Pathways** _providing pathway support_
☒ learner feedback sheet	☒ certificate of participation	☒ discussion of needs and aspirations via Learner Plan
☒ monitoring during the course	☐ exhibition of work	☒ class discussion of internal and external options
☐ group interviews	☐ demonstration	☒ Internet links
☒ in-course reviews (strengths, issues)	☐ publicity	☐ careers advisors
☒ post-course surveys	☐ film, computer or oral presentation	☒ other programs, other providers
☐ benchmarking other courses	☐ performance	☐ community advertisements
☐ feedback from critical friends	☒ letter, note, email	☐ mentoring
☒ client feedback (employers/community)	☐ skills portfolio	**Add others**
Add others	☐ community recognition	
	Add others	