Title	**Demonstrate flying skills in simulated uninhabited aerial vehicle flight**		
Level	**4**	**Credits**	**10**

Purpose	People credited with this unit standard are able to demonstrate knowledge of uninhabited aerial vehicle flight simulation components, and knowledge of the flight simulator settings and options; and in simulated uninhabited aerial vehicle flight are able to demonstrate: aircraft handling (no wind); aircraft handling (with wind); aircraft landing; stills sensor integration; video sensor integration; emergency action; advanced flying modes; and consolidation flying.

Classification	Aviation > Aircraft Operation

Available grade	Achieved

Explanatory notes

1 The uninhabited aerial systems (UAS) operations covered by this unit standard must be demonstrated in accordance with the Civil Aviation Rules Part 61 and other relevant rules, published by the Civil Aviation Authority (CAA) of New Zealand, PO Box 3555, Wellington 6140, or available at http://www.caa.govt.nz.

2 Industry standards and recommended practices are those recognised by the CAA.

3 Industry texts may include but are not limited to – aircraft flight manuals, CAA Rules, CAA Advisory Circulars, operator exposition.

4 For the purpose of this unit standard, *knowledge* refers to knowledge, understanding, and application of the subject matter.

5 This unit standard is applicable to flight simulation for a small UAV (uninhabited aerial vehicle) (Under 25 kg MTOW), for example the Kahu UAV or RQ-84Z AreoHawk UAV.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of uninhabited aerial vehicle flight simulation components.

Evidence requirements

1.1 The components of the flight simulator are identified, and their operational functions are described in accordance with industry texts and standards.

Outcome 2

Demonstrate knowledge of the flight simulator settings and options.

Evidence requirements

2.1 Flight simulator settings and options are explained in accordance with industry texts and standards.

Range may include but is not limited to – start mode, aircraft settings, payload settings, advanced options, auxiliary controls, replay modes, overlay, emergency landing point, shortcuts, interlink controller functions.

Outcome 3

Demonstrate aircraft handling in simulated uninhabited aerial vehicle flight with no wind.

Evidence requirements

3.1 Aircraft handling is demonstrated in accordance with industry texts and standards.

Range may include but is not limited to – all flight modes, climbing and descending, variation of airspeed, turning, orbiting, manual heading mode, over altitude function, landing modes, flight replay.

Outcome 4

Demonstrate aircraft handling in simulated uninhabited aerial vehicle flight with wind.

Evidence requirements

4.1 Aircraft handling is demonstrated in accordance with industry texts and standards.

Range may include but is not limited to – Navigation Steering Mode (NSM) and Heading Steering Mode (HSM) turns with wind induced, track linear features, track non-linear features, climb and descend upwind, climb and descend downwind, ground speed in strong winds, orbit with wind induced.

Outcome 5

Demonstrate aircraft landing in simulated uninhabited aerial vehicle flight.

Evidence requirements

5.1 Landing is demonstrated in accordance with industry texts and standards.

Range landings may include but are not limited to – system specific landing modes, system specific termination of flight.

Outcome 6

Demonstrate stills sensor integration in simulated uninhabited aerial vehicle flight.

Evidence requirements

6.1 Conduct of stills sensor integration flight is performed and use of image tools is demonstrated in accordance with industry texts and standards.

Range methods of flight conduct may include but are not limited to – payload settings, tracking flight poach, track and heading vectors, show overlapped images;
tools may include but are not limited to – protractor, square overlays, K & B markers, fly to way point, hook cursor, marker.

Outcome 7

Demonstrate video sensor integration in simulated uninhabited aerial vehicle flight.

Evidence requirements

7.1 Conduct of video sensor integration flight is performed and use of image tools is demonstrated in accordance with industry texts and standards.

Range methods of flight conduct may include but are not limited to – payload settings, simultaneous control of sensor and airframe, orbit arc target, tracking moving target, tracking linear features, tracking shipping (AIS mode), area search;
tools may include but are not limited to – K & B markers, update markers menu, geo-stabilisation, covert techniques.

Outcome 8

Demonstrate emergency action in simulated uninhabited aerial vehicle flight.

Evidence requirements

8.1 Emergency action is implemented in accordance with industry texts and standards.

Range emergencies may include but are not limited to – link loss, servo failure, GPS failure.

Outcome 9

Demonstrate advanced flying modes in simulated uninhabited aerial vehicle flight.

Evidence requirements

9.1 Advanced flying modes are performed in accordance with industry texts and standards.

Range advanced flying modes may include but are not limited to – Heading Stabilised Modes (HSM), instruments only, Direct Control Mode, dead reckoning mode.

Outcome 10

Demonstrate consolidation flying in simulated uninhabited aerial vehicle flight.

Evidence requirements

10.1 Consolidation flying is demonstrated in accordance with industry texts and standards.

Range may include any one of – by day or by night.

Planned review date	31 December 2017

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 April 2013	N/A

Consent and Moderation Requirements (CMR) reference	0169

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Please note
Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the Service Skills Institute (ServiceIQ) qualifications@serviceiq.org.nz if you wish to suggest changes to the content of this unit standard.