

Title	Demonstrate knowledge of aircraft radio communications and navigation systems		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: relate the principles of radio frequency communication to their use in aircraft systems; describe the principles and operation of aircraft radio communication systems; describe communications system maintenance procedures; describe the principles and operation of aircraft navigation systems; describe navigation system maintenance procedures; and describe the principles and operation of aircraft passenger address, intercom and entertainment systems.
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Classification	Aeronautical Engineering > Aeronautical Engineering - Core
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Available grade	Achieved
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Guidance Information

- 1 The depth and scope of knowledge required for each performance criterion in this unit standard is that required to carry out system maintenance and component repair or overhaul tasks.
- 2 The scope of the system that this standard relates to is described in ATA iSpec 2200, and applicable chapters.

Outcomes and performance criteria

Outcome 1

Relate the principles of radio frequency communication to their use in aircraft systems.

Performance criteria

- 1.1 The use of the radio frequency spectrum is described in terms of its application to aircraft systems.
- 1.2 Transmission, reception and propagation principles are described in terms of their use in aircraft systems.

Range amplitude modulation, frequency modulation, single side band.

- 1.3 The principles of operation of radio components are described in terms of their function in aircraft systems.

Range transmitters, receivers, transmission lines, transducers, antennas, power supplies.

Outcome 2

Describe the principles and operation of aircraft radio communication systems.

Range High Frequency (HF), Very High Frequency (VHF).

Performance criteria

- 2.1 Communication system components are identified in terms of aircraft communication systems.
- 2.2 The function of each component is described in terms of its operation within an aircraft system.
- 2.3 The interaction and interface of the communication systems with other aircraft systems is described for normal operating conditions.

Outcome 3

Describe communications system maintenance procedures.

Performance criteria

- 3.1 Maintenance procedures are described for on-board system maintenance activities.
- Range fault finding, component changes, testing.
- 3.2 Safety precautions are identified for on-board system maintenance activities.
- Range system isolation, labels, warning signs, system activation procedures.

Outcome 4

Describe the principles and operation of aircraft navigation systems.

Performance criteria

- 4.1 Navigation systems and equipment are described in terms of their use on aircraft.
- Range VHF Navigation systems, Distance Measuring Equipment, Radio altimeters, Air Traffic Control systems, Automatic Direction Finding, Traffic Advisory and Collision Avoidance Systems, Ground Proximity Warning, Global Positioning systems.

- 4.2 The function of components is described in terms of their operation within the system.
- 4.3 The modes of system operation are described for normal operating conditions.
- 4.4 The principles of system operation are described in terms of aircraft flight navigation requirements.
- 4.5 The interaction and interface of the navigation systems with other aircraft systems is described for normal operating conditions.

Outcome 5

Describe navigation system maintenance procedures.

Performance criteria

- 5.1 Procedures to maintain an aircraft system are described for on-board maintenance activities.
Range fault finding, component changes, testing.
- 5.2 Safety precautions are identified for on-board system maintenance activities.
Range system isolation, labels, warning signs, system activation procedures.

Outcome 6

Describe the principles and operation of aircraft passenger address, intercom and entertainment systems.

Performance criteria

- 6.1 Passenger address, intercom and entertainment system components are identified in terms of aircraft systems.
- 6.2 The function of each component is described in terms of its operation within an aircraft system.
- 6.3 The interaction and interface of the passenger address, intercom and entertainment systems with other aircraft systems is described for normal operating conditions.

Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 June 1995	31 December 2016
Review	2	1 September 1997	31 December 2016
Revision	3	8 May 2001	31 December 2016
Review	4	19 May 2006	31 December 2016
Revision	5	21 September 2007	31 December 2016
Review	6	19 September 2013	31 December 2021
Review	7	26 March 2020	N/A
Rollover and Revision	8	26 April 2024	N/A

Consent and Moderation Requirements (CMR) reference

0028

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

Comments on this unit standard

Please contact Ringa Hora Services Workforce Development Council qualifications@ringahora.nz if you wish to suggest changes to the content of this unit standard.