

School administrators and Heads of Learning Area – Aviation and teachers of Aviation ATAR Year 12 are requested to note for 2024 the following minor syllabus changes. The syllabus is labelled ‘For teaching from 2024’.

Aviation | ATAR Year 12 | Summary of minor syllabus changes for 2024

The content identified by ~~strike through~~ has been deleted from the syllabus and the content identified in *italics* has been revised in the syllabus for teaching from 2024.

- In both Units 3 and 4, the term airspeed has changed to *air speed*.

Structure of the syllabus

Unit 3

Students develop their understanding of aerodynamics and examine rotary wing, *and* advanced aerodynamic features ~~and high-speed aerodynamics~~. They apply the terminology and principles of navigation to learn how to prepare aeronautical maps for visual navigation and learn to complete flight plans. Students explore the formation and interaction of weather on aviation operations and the rules for visual flight.

Organisation of content

Practical flight skills

- interpretation of the automatic direction finder (ADF), VHF omnidirectional radio beacons (VOR), instrument landing system (ILS), visual approach slope guidance system, including visual approach slope indicator system (VASIS), T-VASIS and precision approach ~~slope~~ *path* indicator (PAPI) and distance measuring equipment (DME)

Unit 3

Unit description

Students develop their understanding of aerodynamics and examine rotary wing, *and* advanced aerodynamic features ~~and high-speed aerodynamics~~. They apply the terminology and principles of navigation to learn how to prepare aeronautical maps for visual navigation and learn to complete flight plans. Students explore the formation and interaction of weather on aviation operations and the rules for visual flight.

Students understand the principles, purpose and need for safety management in aviation, including communication, leadership, assertiveness, judgement and decision making. They understand issues associated with flight crew resource management and the development of threat and error management (TEM). In considering the development of aviation, students study a selection of current developments in aviation, looking at the factors driving the developments, and their likely impact.

Aviation development

- factors influencing the ongoing development and/or likely impact of:
 - unmanned aerial vehicle (UAV)
 - aircraft noise
 - composite materials
 - ageing general aviation (GA) aircraft fleet, metal fatigue and ~~airframe life extension~~ *maintenance*

Unit 4

Principles of flight

- rotary wing
 - principles of lift and drag
 - flight manoeuvres – hovering, transition and translational lift, cruise, descent, vertical ascent and descent, autorotation
 - principles associated with helicopter operation, including gyroscopic precession, retreating blade stall, coning, Coriolis effect, tail rotor drift
 - forces acting on helicopters in flight
 - helicopter controls
- high speed aerodynamics
 - aerodynamic principles related to transonic, supersonic and hypersonic flight regimes
 - mach number and critical mach number, shock waves
 - aerodynamic structures incorporated into the design of transonic and supersonic aircraft.