

POOLEYS–AIR PILOT PUBLISHING
AIR PILOT'S MANUALS

Where to find the
Learning Objectives
in the
Air Pilot's Manuals



POOLEYS
Air Pilot Publishing

POOLEYS–AIR PILOT PUBLISHING AIR PILOT’S MANUALS

Where to find the **Learning Objectives**:

010 AIR LAW AND ATC PROCEDURES (Page1/2)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
010.00.00.00	AIR LAW AND ATC PROCEDURES					APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
010.01.00.00	International law: conventions, agreements and organisations					APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
010.01.01.00	The Convention on international civil aviation (Chicago) Doc. 7300/6					APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
010.01.01.01	Part I Air Navigation: relevant parts of the following chapters:					APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
	(a) general principles and application of the convention;	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
	(b) flight over territory of Contracting States;	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
	(c) nationality of aircraft;	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
	(d) measures to facilitate air navigation;	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
	(e) conditions to be fulfilled on aircraft;	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
	(f) international standards and recommended practices;	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
	(g) validity of endorsed certificates and licences;	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
	(h) notification of differences.	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
010.01.01.02	Part II The International Civil Aviation Organisation (ICAO): objectives and composition	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
010.02.00.00	Annex 8: Airworthiness of aircraft					APM Vol 2, Section 1, Chapter 9 - Registration and Airworthiness
010.02.01.01	Foreword and definitions	×		×		APM Vol 2, Section 1, Chapter 9 - Registration and Airworthiness
010.02.01.02	Certificate of airworthiness					APM Vol 2, Section 1, Chapter 9 - Registration and Airworthiness
010.03.00.00	Annex 7: Aircraft nationality and registration marks					APM Vol 2, Section 1, Chapter 9 - Registration and Airworthiness
010.03.01.01	Foreword and definitions	×		×		APM Vol 2, Section 1, Chapter 9 - Registration and Airworthiness
010.03.01.02	Common- and registration marks	×		×		APM Vol 2, Section 1, Chapter 9 - Registration and Airworthiness
010.03.01.03	Certificate of registration and aircraft nationality	×		×		APM Vol 2, Section 1, Chapter 9 - Registration and Airworthiness
010.04.00.00	Annex 1: Personnel licensing					APM Vol 2, Section 1, Chapter 10 - Pilots' Licences
010.04.01.01	Definitions	×		×		APM Vol 2, Section 1, Chapter 10 - Pilots' Licences
010.04.01.02	Relevant parts of Annex 1 connected to Part-FCL and Part-Medical	×		×		APM Vol 2, Section 1, Chapter 10 - Pilots' Licences
010.05.00.00	Annex 2: Rules of the air					APM Vol 2, Section 1, Chapter 2 - Rules of the Air
010.05.01.01	Essential definitions, applicability of the rules of the air, general rules (except water operations), visual flight rules, signals and interception of civil aircraft	×		×		APM Vol 2, Section 1, Chapter 2 - Rules of the Air
010.06.00.00	Procedures for air navigation: aircraft operations doc. 8168-ops/611, volume 1					APM Vol 2, Section 1, Chapter 4 - Altimeter-Setting Procedures
010.06.01.01	Altimeter setting procedures (including ICAO doc. 7031 – regional supplementary procedures)	×		×		APM Vol 2, Section 1, Chapter 4 - Altimeter-Setting Procedures
010.06.01.02	Basic requirements (except tables), procedures applicable to operators and pilots (except tables)	×		×		APM Vol 2, Section 1, Chapter 4 - Altimeter-Setting Procedures
010.07.00.00	Secondary surveillance radar transponder operating procedures (including ICAO Doc. 7031 – regional supplementary procedures)					APM Vol 2, Section 1, Chapter 11 - Operation of Aircraft
010.07.01.01	Operation of transponders	×		×		APM Vol 2, Section 1, Chapter 11 - Operation of Aircraft
010.07.01.02	Phraseology	×		×		APM Vol 2, Section 1, Chapter 11 - Operation of Aircraft
010.08.00.00	Annex 11: Doc. 4444 air traffic management					APM Vol 6, Section 1, Chapter 7 - Air Traffic Services
010.08.01.01	Definitions	×		×		APM Vol 6, Section 1, Chapter 7 - Air Traffic Services
010.08.01.02	General provisions for air traffic services	×		×		APM Vol 6, Section 1, Chapter 7 - Air Traffic Services
010.08.01.03	Visual separation in the vicinity of aerodromes	×		×		APM Vol 6, Section 1, Chapter 7 - Air Traffic Services
010.08.01.04	Procedures for aerodrome control services	×		×		APM Vol 6, Section 1, Chapter 7 - Air Traffic Services
010.08.01.05	Radar services	×		×		APM Vol 6, Section 1, Chapter 7 - Air Traffic Services
010.08.01.06	Flight information service and alerting service	×		×		APM Vol 6, Section 1, Chapter 7 - Air Traffic Services
010.08.01.07	Phraseologies	×		×		APM Vol 6, Section 1, Chapter 7 - Air Traffic Services
010.08.01.08	Procedures related to emergencies, communication failure and contingencies	×		×		APM Vol 6, Section 1, Chapter 7 - Air Traffic Services

010 AIR LAW AND ATC PROCEDURES (Page 2/2)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
010.09.00.00	Annex 15: Aeronautical information service					APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
010.09.01.01	Introduction, essential definitions	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
010.09.01.02	AIP, NOTAM, AIRAC and AIC	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
010.10.00.00	Annex 14, volume 1 and 2: Aerodromes					APM Vol 2, Section 1, Chapter 3 - Aerodromes
010.10.01.01	Definitions	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
010.10.01.02	Aerodrome data: conditions of the movement area and related facilities	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
010.10.01.03	Visual aids for navigation:	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
	(a) indicators and signalling devices;	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
	(b) markings;	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
	(c) lights;	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
	(d) signs;	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
	(e) markers.	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
010.10.01.04	Visual aids for denoting obstacles:	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
	(a) marking of objects;	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
	(b) lighting of objects.	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
010.10.01.05	Visual aids for denoting restricted use of areas	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
010.10.01.06	Emergency and other services:					APM Vol 2, Section 1, Chapter 3 - Aerodromes
	(a) rescue and fire fighting;	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
	(b) apron management service.	×		×		APM Vol 2, Section 1, Chapter 3 - Aerodromes
010.11.00.00	Annex 12: Search and rescue					APM Vol 6, Section 1, Chapter 13 - Search and Rescue
010.11.01.01	Essential definitions	×		×		APM Vol 6, Section 1, Chapter 13 - Search and Rescue
010.11.01.02	Operating procedures:	×		×		APM Vol 6, Section 1, Chapter 13 - Search and Rescue
	(a) procedures for PIC at the scene of an accident;	×		×		APM Vol 6, Section 1, Chapter 13 - Search and Rescue
	(b) procedures for PIC intercepting a distress transmission;	×		×		APM Vol 6, Section 1, Chapter 13 - Search and Rescue
	(c) search and rescue signals.	×		×		APM Vol 6, Section 1, Chapter 13 - Search and Rescue
010.11.01.03	Search and rescue signals:					APM Vol 6, Section 1, Chapter 13 - Search and Rescue
	(a) signals with surface craft;	×		×		APM Vol 6, Section 1, Chapter 13 - Search and Rescue
	(b) ground or air visual signal code;	×		×		APM Vol 6, Section 1, Chapter 13 - Search and Rescue
	(c) air or ground signals.	×		×		APM Vol 6, Section 1, Chapter 13 - Search and Rescue
010.12.00.00	Annex 17: Security					APM Vol 6 Addendum
010.12.01.01	General: aims and objectives	×		×		APM Vol 6 Addendum
010.13.00.00	Annex 13: Aircraft accident investigation					APM Vol 6, Section 1, Chapter 14 - Accident Investigation Regs.
010.13.01.01	Essential definitions	×		×		APM Vol 6, Section 1, Chapter 14 - Accident Investigation Regs.
010.13.01.02	Applicability	×		×		APM Vol 6, Section 1, Chapter 14 - Accident Investigation Regulations
010.14.00.00	National law					APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
010.14.01.01	National law and differences to relevant ICAO Annexes and relevant EU regs.	×		×		APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation
010.14.01.02	ICAO Annexes and relevant EU regulations.	×		×		APM Vol 6, Section 1, Chapter 15 - ICAO Annex Terminology

020 AIRCRAFT GENERAL KNOWLEDGE (Page1/6)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
020.00.00.00	AIRCRAFT GENERAL KNOWLEDGE					APM Vol 4
021.00.00.00	AIRFRAME AND SYSTEMS, ELECTRICS, POWERPLANT AND EMERGENCY EQUIPMENT					APM Vol 4
021.01.00.00	System design, loads, stresses, maintenance					APM Vol 4 Addendum
021.01.01.00	Loads and combination loadings applied to an aircraft's structure	×	×	×	×	APM Vol 4 Addendum
021.02.00.00	Airframe					APM Vol 4, Section 2, Chapter 15 - The Airframe
021.02.01.00	Wings, tail surfaces and control surfaces					APM Vol 4, Section 2, Chapter 15 - The Airframe
021.02.01.01	Design and constructions	×	×			APM Vol 4, Section 2, Chapter 15 - The Airframe
021.02.01.02	Structural components and materials	×	×			APM Vol 4, Section 2, Chapter 15 - The Airframe
021.02.01.03	Stresses	×	×			APM Vol 4, Section 2, Chapter 15 - The Airframe
021.02.01.04	Structural limitations	×	×			APM Vol 4, Section 2, Chapter 15 - The Airframe
021.02.02.00	Fuselage, doors, floor, wind-screen and windows					APM Vol 4, Section 2, Chapter 15 - The Airframe & Addendum
021.02.02.01	Design and constructions	×	×	×	×	APM Vol 4, Section 2, Chapter 15 - The Airframe & Addendum
021.02.02.02	Structural components and materials	×	×	×	×	APM Vol 4, Section 2, Chapter 15 - The Airframe & Addendum
021.02.02.03	Stresses	×	×	×	×	APM Vol 4, Section 2, Chapter 15 - The Airframe & Addendum
021.02.02.04	Structural limitations	×	×	×	×	APM Vol 4, Section 2, Chapter 15 - The Airframe & Addendum
021.02.03.00	Flight and control surfaces					-
021.02.03.01	Design and constructions			×	×	-
021.02.03.02	Structural components and materials			×	×	-
021.02.03.03	Stresses and aero elastic vibrations			×	×	-
021.02.03.04	Structural limitations			×	×	-
	Hydraulics					APM Vol 4 Addendum
021.03.00.00	Hydromechanics: basic principles	×	×	×	×	APM Vol 4 Addendum
021.03.01.00	Hydraulic systems	×	×	×	×	APM Vol 4 Addendum
021.03.01.01	Hydraulic fluids: types and characteristics, limitations	×	×	×	×	APM Vol 4 Addendum
021.03.01.02	System components: design, operation, degraded modes of operation, indications and warnings	×	×	×	×	APM Vol 4 Addendum
021.04.00.00	Landing gear, wheels, tyres and brakes					APM Vol 4, Section 2, Chapter 24 - Landing Gear, Tyres and Brakes
021.04.01.00	Landing gear					APM Vol 4, Section 2, Chapter 24 - Landing Gear, Tyres and Brakes
021.04.01.01	Types and materials	×	×	×	×	APM Vol 4, Section 2, Chapter 24 - Landing Gear, Tyres and Brakes
021.04.02.00	Nose wheel steering: design and operation	×	×			APM Vol 4, Section 2, Chapter 24 - Landing Gear, Tyres and Brakes
021.04.03.00	Brakes					APM Vol 4, Section 2, Chapter 24 - Landing Gear, Tyres and Brakes
021.04.03.01	Types and materials	×	×	×	×	APM Vol 4, Section 2, Chapter 24 - Landing Gear, Tyres and Brakes
021.04.03.02	System components: design, operation, indications and warnings	×	×	×	×	APM Vol 4, Section 2, Chapter 24 - Landing Gear, Tyres and Brakes
021.04.04.00	Wheels and tyres					APM Vol 4, Section 2, Chapter 24 - Landing Gear, Tyres and Brakes
021.04.04.01	Types and operational limitations	×	×	×	×	APM Vol 4, Section 2, Chapter 24 - Landing Gear, Tyres and Brakes
021.05.00.00	Helicopter equipment			×	×	-
021.06.00.00	Flight controls					APM Vol 4, Section 1, Chapter 8 - Control & Addendum
021.06.01.01	Mechanical or powered	×	×	×	×	APM Vol 4, Section 1, Chapter 8 - Control & Addendum
021.06.01.02	Control systems and mechanical	×	×	×	×	APM Vol 4, Section 1, Chapter 8 - Control & Addendum
021.06.01.03	System components: design, operation, indications and warnings, degraded modes of operation and jamming	×	×	×	×	APM Vol 4, Section 1, Chapter 8 - Control & Addendum
021.06.02.00	Secondary flight controls					APM Vol 4, Section 1, Chapter 8 - Control & Addendum
021.06.02.01	System components: design, operation, degraded modes of operation, indications and warnings	×	×			APM Vol 4, Section 1, Chapter 8 - Control & Addendum
021.06.03.00	Anti-icing systems					APM Vol 4 Addendum
021.06.03.01	Types and operation (pitot and windshield)	×	×	×	×	APM Vol 4 Addendum
021.07.00.00	Fuel system					APM Vol 4, Section 2, Chapter 18 - The Fuel System

020 AIRCRAFT GENERAL KNOWLEDGE (Page 2/6)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
021.07.01.00	Piston engine					APM Vol 4, Section 2, Chapter 16 - The Aeroplane Engine
021.07.01.01	System components: design, operation, degraded modes of operation, indications and warnings	×	×	×	×	APM Vol 4, Section 2, Chapter 16 - The Aeroplane Engine
021.07.02.00	Turbine engine					-
021.07.02.01	System components: design, operation, degraded modes of operation, indications and warnings			×	×	-
021.08.00.00	ELECTRICS					APM Vol 4, Section 2, Chapter 22 - The Electrical System and APM Vol 4 Addendum
021.08.01.00	Electrics: general and definitions					APM Vol 4 Addendum
021.08.01.01	Direct current: voltage, current, resistance, conductivity, Ohm's law, power and work	×	×	×	×	APM Vol 4 Addendum
021.08.01.02	Alternating current: voltage, current, amplitude, phase, frequency and resistance	×	×	×	×	APM Vol 4 Addendum
021.08.01.03	Circuits: series and parallel	×	×	×	×	APM Vol 4 Addendum
021.08.01.04	Magnetic field: effects in an electrical circuit	×	×	×	×	APM Vol 4 Addendum
021.08.02.00	Batteries					APM Vol 4, Section 2, Chapter 22 - The Electrical System
021.08.02.01	Types, characteristics and limitations	×	×	×	×	APM Vol 4, Section 2, Chapter 22 - The Electrical System
021.08.02.02	Battery chargers, characteristics and limitations	×	×	×	×	APM Vol 4 Addendum
021.08.03.00	Static electricity: general					APM Vol 4 Addendum
021.08.03.01	Basic principles	×	×	×	×	APM Vol 4 Addendum
021.08.03.02	Static dischargers	×	×	×	×	APM Vol 4 Addendum
021.08.03.03	Protection against interference	×	×	×	×	APM Vol 4 Addendum
021.08.03.04	Lightning effects	×	×	×	×	APM Vol 4 Addendum
021.08.04.00	Generation: production, distribution and use					APM Vol 4 Addendum
021.08.04.01	DC generation: types, design, operation, degraded modes of operation, indications and warnings	×	×	×	×	APM Vol 4 Addendum
021.08.04.02	AC generation: types, design, operation, degraded modes of operation, indications and warnings	×	×	×	×	APM Vol 4, Section 2, Chapter 22 - The Electrical System and APM Vol 4 Addendum
021.08.05.00	Electric components					APM Vol 4, Section 2, Chapter 22 - The Electrical System
021.08.05.01	Basic elements: basic principles of switches, circuit-breakers and relays	×	×	×	×	APM Vol 4, Section 2, Chapter 22 - The Electrical System
021.08.06.00	Distribution					APM Vol 4 Addendum
021.08.06.01	General:	×	×	×	×	APM Vol 4 Addendum
	(a) bus bar, common earth and priority;	×	×	×	×	APM Vol 4 Addendum
	(b) AC and DC comparison.	×	×	×	×	APM Vol 4 Addendum
021.09.00.00	Piston engines					APM Vol 4, Section 2, Chapter 16 - The Aeroplane Engine
021.09.01.00	General					APM Vol 4, Section 2, Chapter 16 - The Aeroplane Engine
021.09.01.01	Types of internal combustion engine: basic principles and definitions	×	×	×	×	APM Vol 4, Section 2, Chapter 16 - The Aeroplane Engine
021.09.01.02	Engine: design, operation, components and materials	×	×	×	×	APM Vol 4, Section 2, Chapter 16 - The Aeroplane Engine
021.09.02.00	Fuel					APM Vol 4, Section 2, Chapter 18 - The Fuel System
021.09.02.01	Types, grades, characteristics and limitations	×	×	×	×	APM Vol 4, Section 2, Chapter 18 - The Fuel System
021.09.02.02	Alternate fuel: characteristics and limitations	×	×	×	×	APM Vol 4, Section 2, Chapter 16 - The Aeroplane Engine
021.09.03.00	Carburettor or injection system					APM Vol 4, Section 2, Chapter 17 - The Carburettor
021.09.03.01	Carburettor: design, operation, degraded modes of operation, indications and warnings	×	×	×	×	APM Vol 4, Section 2, Chapter 17 - The Carburettor
021.09.03.02	Injection: design, operation, degraded modes of operation, indications and warnings	×	×	×	×	APM Vol 4, Section 2, Chapter 17 - The Carburettor
021.09.03.03	Icing	×	×	×	×	APM Vol 4, Section 2, Chapter 17 - The Carburettor
021.09.04.00	Air cooling systems					APM Vol 4, Section 2, Chapter 20 - The Cooling System
021.09.04.01	Design, operation, degraded modes of operation, indications and warnings	×	×	×	×	APM Vol 4, Section 2, Chapter 20 - The Cooling System

020 AIRCRAFT GENERAL KNOWLEDGE (Page 3/6)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
021.09.05.00	Lubrication systems					APM Vol 4, Section 2, Chapter 19 - The Oil System
021.09.05.01	Lubricants: types, characteristics and limitations	×	×	×	×	APM Vol 4, Section 2, Chapter 19 - The Oil System
021.09.05.02	Design, operation, degraded modes of operation, indications and warnings	×	×	×	×	APM Vol 4, Section 2, Chapter 19 - The Oil System
021.09.06.00	Ignition circuits					APM Vol 4, Section 2, Chapter 16 - The Aeroplane Engine
021.09.06.01	Design, operation, degraded modes of operation	×	×	×	×	APM Vol 4, Section 2, Chapter 16 - The Aeroplane Engine
021.09.07.00	Mixture					APM Vol 4, Section 2, Chapter 17 - The Carburettor
021.09.07.01	Definition, characteristic mixtures, control instruments, associated control levers and indications	×	×	×	×	APM Vol 4, Section 2, Chapter 17 - The Carburettor
021.09.08.00	Propellers					APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller and APM Vol 4, Section 2, Chapter 21 - Engine Handling
021.09.08.01	Definitions and general:	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
	(a) aerodynamic parameters;	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
	(b) types;	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
	(c) operating modes.	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
021.09.08.02	Constant speed propeller: design, operation and system components	×	×			APM Vol 4, Section 2, Chapter 21 - Engine Handling
021.09.08.03	Propeller handling: associated control levers, degraded modes of operation, indications and warnings	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller and APM Vol 4, Section 2, Chapter 21 - Engine Handling
021.09.09.00	Performance and engine handling					APM Vol 4, Section 2, Chapter 21 - Engine Handling & Addendum
021.09.09.01	Performance: influence of engine parameters, influence of atmospheric conditions, limitations and power augmentation systems	×	×	×	×	APM Vol 4, Section 2, Chapter 21 - Engine Handling & Addendum
021.09.09.02	Engine handling: power and mixture settings during various flight phases and operational limitations	×	×	×	×	APM Vol 4, Section 2, Chapter 21 - Engine Handling & Addendum
021.10.00.00	Turbine engines					-
021.10.01.00	Definitions			×	×	-
021.10.01.01	Coupled turbine engine: design, operation, components and materials			×	×	-
021.10.01.02	Free turbine engine: design, operation, components and materials			×	×	-
021.10.02.00	Fuel					-
021.10.02.01	Types, characteristics and limitations			×	×	-
021.10.03.00	Main engine components					-
021.10.03.01	Compressor:			×	×	-
	(a) types, design, operation, components and materials;			×	×	-
	(b) stresses and limitations;			×	×	-
	(c) stall, surge and means of prevention.			×	×	-
021.10.03.02	Combustion chamber:			×	×	-
	(a) types, design, operation, components and materials;			×	×	-
	(b) stresses and limitations;			×	×	-
	(c) emission problems.			×	×	-
021.10.03.03	Turbine:			×	×	-
	(a) types, design, operation, components and materials;			×	×	-
	(b) stresses, creep and limitations.			×	×	-
021.10.03.04	Exhaust:			×	×	-
	(a) design, operation and materials;			×	×	-
	(b) noise reduction.			×	×	-
021.10.03.05	Fuel control units: types, operation and sensors			×	×	-
021.10.03.06	Helicopter air intake: different types, design, operation, materials and optional equipments			×	×	-
021.10.04.00	Additional components and systems					-
021.10.04.01	Helicopter additional components and systems: lubrication system, ignition circuit, starter, accessory gearbox, free wheel units: design, operation and components			×	×	-

020 AIRCRAFT GENERAL KNOWLEDGE (Page 4/6)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
021.10.05.00	Performance aspects					-
021.10.05.01	Torque, performance aspects, engine handling and limitations:			×	×	-
	(a) engine ratings;			×	×	-
	(b) engine performance and limitations;			×	×	-
	(c) engine handling.			×	×	-
021.11.00.00	Protection and detection systems					-
021.11.01.00	Fire detection systems					-
021.11.01.01	Operation and indications			×	×	-
	Helicopter: Miscellaneous systems					-
021.12.00.00	Rotor design			×	×	-
021.13.00.00	Rotor heads					-
021.13.01.00	Main rotor					-
021.13.01.01	Types			×	×	-
021.13.01.02	Structural components and materials, stresses and structural limitations			×	×	-
021.13.01.03	Design and construction			×	×	-
021.13.01.04	Adjustment			×	×	-
021.13.02.00	Tail rotor					-
021.13.02.01	Types			×	×	-
021.13.02.02	Structural components and materials, stresses and structural limitations			×	×	-
021.13.02.03	Design and construction			×	×	-
021.13.02.04	Adjustment			×	×	-
021.14.00.00	Transmission					-
021.14.01.00	Main gear box					-
021.14.01.01	Different types, design, operation and limitations			×	×	-
021.14.02.00	Rotor brake					-
021.14.02.01	Different types, design, operation and limitations			×	×	-
021.15.00.00	Auxiliary systems			×	×	-
021.16.00.00	Drive shaft and associated installation			×	×	-
021.16.01.00	Intermediate and tail gear box					-
021.16.01.01	Different types, design, operation and limitations			×	×	-
021.17.00.00	Blades					-
021.17.01.00	Main rotor blade					-
021.17.01.01	Design and construction			×	×	-
021.17.01.02	Structural components and materials			×	×	-
021.17.01.03	Stresses			×	×	-
021.17.01.04	Structural limitations			×	×	-
021.17.01.05	Adjustment			×	×	-
021.17.01.06	Tip shape			×	×	-
021.17.02.00	Tail rotor blade					-
021.17.02.01	Design and construction			×	×	-
021.17.02.02	Structural components and materials			×	×	-
021.17.02.03	Stresses			×	×	-
021.17.02.04	Structural limitations			×	×	-
021.17.02.05	Adjustment			×	×	-
022.00.00.00	INSTRUMENTATION					APM Vol 4, Section 3 and APM Vol 4 Addendum
022.01.00.00	Instrument and indication systems					APM Vol 4 Addendum
022.01.01.00	Pressure gauge					APM Vol 4 Addendum
022.01.01.01	Different types, design, operation, characteristics and accuracy	×	×	×	×	APM Vol 4 Addendum

020 AIRCRAFT GENERAL KNOWLEDGE (Page 5/6)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
022.01.02.00	Temperature sensing					APM Vol 4 Addendum
022.01.02.01	Different types, design, operation, characteristics and accuracy	×	×	×	×	APM Vol 4 Addendum
022.01.03.00	Fuel gauge					APM Vol 4 Addendum
022.01.03.01	Different types, design, operation, characteristics and accuracy	×	×	×	×	APM Vol 4 Addendum
022.01.04.00	Flow meter					APM Vol 4 Addendum
022.01.04.01	Different types, design, operation, characteristics and accuracy	×	×	×	×	APM Vol 4 Addendum
022.01.05.00	Position transmitter					APM Vol 4 Addendum
022.01.05.01	Different types, design, operation, characteristics and accuracy	×	×	×	×	APM Vol 4 Addendum
022.01.06.00	Torque meter					-
022.01.06.01	Design, operation, characteristics and accuracy			×	×	-
022.01.07.00	Tachometer					APM Vol 4 Addendum
022.01.07.01	Design, operation, characteristics and accuracy	×	×	×	×	APM Vol 4 Addendum
022.02.00.00	Measurement of aerodynamic parameters					APM Vol 4, Section 3, Chapter 25 - Pressure Instruments and APM Vol 4 Addendum
022.02.01.00	Pressure measurement					APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.01.01	Static pressure, dynamic pressure, density and definitions	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.01.02	Design, operation, errors and accuracy	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.02.00	Temperature measurement: aeroplane					APM Vol 4 Addendum
022.02.02.01	Design, operation, errors and accuracy	×	×			APM Vol 4 Addendum
022.02.02.02	Displays	×	×			APM Vol 4 Addendum
022.02.03.00	Temperature measurement: helicopter					-
022.02.03.01	Design, operation, errors and accuracy			×	×	-
022.02.03.02	Displays			×	×	-
022.02.04.00	Altimeter					APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.04.01	Standard atmosphere	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.04.02	The different barometric references (QNH, QFE and 1013.25)	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.04.03	Height, indicated altitude, true altitude, pressure altitude and density altitude	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments and APM Vol 4 Addendum
022.02.04.04	Design, operation, errors and accuracy	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.04.05	Displays	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.05.00	Vertical speed indicator					APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.05.01	Design, operation, errors and accuracy	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.05.02	Displays	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.06.00	Air speed indicator					APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.06.01	The different speeds IAS, CAS, TAS: definition, usage and relationships	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.06.02	Design, operation, errors and accuracy	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
022.02.06.03	Displays	×	×	×	×	APM Vol 4, Section 3, Chapter 25 - Pressure Instruments
	Magnetism: direct reading compass					APM Vol 4, Section 3, Chapter 27 - The Magnetic Compass
022.03.00.00	Earth magnetic field	×	×	×	×	APM Vol 4, Section 3, Chapter 27 - The Magnetic Compass
022.03.01.00	Direct reading compass					APM Vol 4, Section 3, Chapter 27 - The Magnetic Compass
022.03.01.01	Design, operation, data processing, accuracy and deviation	×	×	×	×	APM Vol 4, Section 3, Chapter 27 - The Magnetic Compass
022.03.01.02	Turning and acceleration errors	×	×	×	×	APM Vol 4, Section 3, Chapter 27 - The Magnetic Compass
022.04.00.00	Gyroscopic instruments					APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments
022.04.01.00	Gyroscope: basic principles					APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments
022.04.01.01	Definitions and design	×	×	×	×	APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments
022.04.01.02	Fundamental properties	×	×	×	×	APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments
022.04.01.03	Drifts	×	×	×	×	APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments

020 AIRCRAFT GENERAL KNOWLEDGE (Page 6/6)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
022.04.02.00	Turn and bank indicator					APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments
022.04.02.01	Design, operation and errors	×	×	×	×	APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments
022.04.03.00	Attitude indicator					APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments
022.04.03.01	Design, operation, errors and accuracy	×	×	×	×	APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments
022.04.04.00	Directional gyroscope					APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments
022.04.04.01	Design, operation, errors and accuracy	×	×	×	×	APM Vol 4, Section 3, Chapter 26 - Gyroscopic Instruments
022.05.00.00	Communication systems					APM Vol 4 Addendum
022.05.01.00	Transmission modes: VHF, HF and SATCOM					APM Vol 4 Addendum
022.05.01.01	Principles, bandwidth, operational limitations and use	×	×	×	×	APM Vol 4 Addendum
022.05.02.00	Voice communication					APM Vol 4 Addendum
022.05.02.01	Definitions, general and applications	×	×	×	×	APM Vol 4 Addendum
022.06.00.00	Alerting systems and proximity systems					APM Vol 4 Addendum
022.06.01.00	Flight warning systems					APM Vol 4 Addendum
022.06.01.01	Design, operation, indications and alarms	×	×	×	×	APM Vol 4 Addendum
022.06.02.00	Stall warning					APM Vol 4 Addendum
022.06.02.01	Design, operation, indications and alarms	×	×			APM Vol 4 Addendum
022.06.03.00	Radio-altimeter					-
022.06.03.01	Design, operation, errors, accuracy and indications			×	×	-
022.06.04.00	Rotor or engine over speed alert system					-
022.06.04.01	Design, operation, displays and alarms			×	×	-
022.07.00.00	Integrated instruments: electronic displays					APM Vol 4 Addendum
022.07.01.00	Display units					APM Vol 4 Addendum
022.07.01.01	Design, different technologies and limitations	×	×	×	×	APM Vol 4 Addendum

030 FLIGHT PERFORMANCE & PLANNING (Page 1/3)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
030.00.00.00	FLIGHT PERFORMANCE AND PLANNING					APM Vol 4
031.00.00.00	MASS AND BALANCE: AEROPLANES OR HELICOPTERS					APM Vol 4
031.01.00.00	Purpose of mass and balance considerations					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.01.01.00	Mass limitations					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.01.01.01	Importance in regard to structural limitations	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.01.01.02	Importance in regard to performance limitations	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.01.02.00	CG limitations					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.01.02.01	Importance in regard to stability and controllability	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance, APM Vol 4, Section 1, Chapter 7 - Stability
031.01.02.02	Importance in regard to performance	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance & Addendum
031.02.00.00	Loading					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.01.00	Terminology					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.01.01	Mass terms	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.01.02	Load terms (including fuel terms)	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.02.00	Mass limits					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.02.01	Structural limitations	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.02.02	Performance limitations	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.02.03	Baggage compartment limitations	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.03.00	Mass calculations					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.03.01	Maximum masses for take-off and landing	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.03.02	Use of standard masses for passengers, baggage and crew	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.04.00	Fundamentals of CG calculations					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.02.04.01	Definition of centre of gravity	×	×	×	×	APM Vol 4, Section 1, Chapter 2 - Weight
031.02.04.02	Conditions of equilibrium (balance of forces and balance of moments)	×	×	×	×	APM Vol 4, Section 1, Chapter 7 - Stability
031.02.04.03	Basic calculations of CG	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.03.00.00	Mass and balance details of aircraft					APM Vol 4, Section 4, Chapter 33 - Mass and Balance & Addendum
031.03.01.00	Contents of mass and balance documentation					APM Vol 4, Section 4, Chapter 33 - Mass and Balance & Addendum
031.03.01.01	Datum and moment arm	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.03.01.02	CG position as distance from datum	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.03.02.00	Extraction of basic mass and balance data from aircraft documentation					APM Vol 4, Section 4, Chapter 33 - Mass and Balance & Addendum
031.03.02.01	BEM	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.03.02.02	CG position or moment at BEM	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.03.02.03	Deviations from standard configuration	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.04.00.00	Determination of CG position					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.04.01.00	Methods					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.04.01.01	Arithmetic method	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.04.01.02	Graphic method	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.04.02.00	Load and trim sheet					APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.04.02.01	General considerations	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
031.04.02.02	Load sheet and CG envelope for light aeroplanes and for helicopters	×	×	×	×	APM Vol 4, Section 4, Chapter 33 - Mass and Balance
032.00.00.00	PERFORMANCE: AEROPLANES					APM Vol 4, Section 4 - Airworthiness, Flight Performance and Planning
032.01.01.00	Introduction					APM Vol 4, Section 4 - Airworthiness, Flight Performance and Planning
032.01.01.01	Performance classes	×	×			Vol 4 Addendum
032.01.01.02	Stages of flight	×	×			APM Vol 4, Section 4, Chapter 31 - Take-Off and Landing Performance, Chapter 32 - En route Performance. APM Vol 4 Section 1, Chapter 3 - Aerofoil Lift, Chapter 4/5 - Drag, Chapter 10 - Straight and Level, Chapter 11 - Climbing, Chapter 12 - Descending

030 FLIGHT PERFORMANCE & PLANNING (Page 2/3)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
032.01.01.03	Effect of aeroplane mass, wind, altitude, runway slope and runway conditions	×	×			APM Vol 4, Section 4, Chapter 30 - The Atmosphere, Chapter 31 - Take-Off and Landing Performance, Chapter 32 - En route Performance.
032.01.01.04	Gradients	×	×			APM Vol 4, Section 4, Chapter 31 - Take-Off and Landing Performance
032.01.02.00	SE aeroplanes					APM Vol 4, Section 4, Chapter 29 - Airframe Limitations, Chapter 31 - Take-Off and Landing Performance, Chapter 32 - En route Performance. APM Vol 4 Section 1, Chapter 10 - Straight and Level, Chapter 11 - Climbing, Chapter 12 - Descending
032.01.02.01	Definitions of terms and speeds	×	×			APM Vol 4, Section 4, Chapter 29 - Airframe Limitations, Chapter 31 - Take-Off and Landing Performance, Chapter 32 - En route Performance. APM Vol 4 Section 1, Chapter 10 - Straight and Level, Chapter 11 - Climbing, Chapter 12 - Descending
032.01.03.00	Take-off and landing performance					APM Vol 4, Section 4, Chapter 31 - Take-Off and Landing Performance
032.01.03.01	Use of aeroplane flight manual data	×	×			APM Vol 4, Section 4, Chapter 31 - Take-Off and Landing Performance
032.01.04.00	Climb and cruise performance					APM Vol 4, Section 4, Chapter 31 - Take-Off and Landing Performance, Chapter 32 - En route Performance
032.01.04.01	Use of aeroplane flight data	×	×			APM Vol 4, Section 4, Chapter 31 - Take-Off and Landing Performance, Chapter 32 - En route Performance
032.01.04.02	Effect of density altitude and aeroplane mass	×	×			APM Vol 4, Section 4, Chapter 30 - The Atmosphere, Chapter 31 - Take-Off and Landing Performance, Chapter 32 - En route Performance
032.01.04.03	Endurance and the effects of the different recommended power or thrust settings	×	×			APM Vol 4, Section 4, Chapter 32 - En route Performance
032.01.04.04	Still air range with various power or thrust settings	×	×			APM Vol 4, Section 4, Chapter 32 - En route Performance
033.00.00.00	FLIGHT PLANNING AND FLIGHT MONITORING					APM Vol 3 and Vol 4
033.01.00.00	Flight planning for VFR flights					APM Vol 3
033.01.01.00	VFR navigation plan					APM Vol 3
033.01.01.01	Routes, airfields, heights and altitudes from VFR charts	×	×	×	×	APM Vol 3, Section 2, Chapter 5 - Introduction to Pre-Flight Planning, Chapter 6 - The Route Plan, Chapter 7 - Vertical Navigation
033.01.01.02	Courses and distances from VFR charts	×	×	×	×	APM Vol 3, Section 2, Chapter 6 - The Route Plan
033.01.01.03	Aerodrome charts and aerodrome directory	×	×	×	×	APM Vol 2, Section 1, Chapter 1 Aviation Law and Legislation, Vol 2 Addendum, APM Vol 6 Operational Procedures, Chapter 2 - Noise Abatement Procedures,
033.01.01.04	Communications and radio navigation planning data	×	×	×	×	APM Vol 2, Section 1, Chapter 1 Aviation Law and Legislation, Vol 2 Addendum, APM Vol 3 Section 4 - En Route Navigation with Radio Navigation Aids
033.01.01.04	Completion of navigation plan	×	×	×	×	APM 3, Section 2 - Pre Flight Planning
033.01.02.00	Fuel planning					APM Vol 3, Section 2, Chapter 10 - Timing and Fuel Management
033.01.02.01	General knowledge	×	×	×	×	APM Vol 3, Section 2, Chapter 10 - Timing and Fuel Management
033.01.03.00	Pre-flight calculation of fuel required					APM Vol 3, Section 2, Chapter 10 - Timing and Fuel Management
033.01.03.01	Calculation of extra fuel	×	×	×	×	APM Vol 3, Section 2, Chapter 10 - Timing and Fuel Management
033.01.03.02	Completion of the fuel section of the navigation plan (fuel log) and calculation of total fuel	×	×	×	×	APM Vol 3, Section 2, Chapter 10 - Timing and Fuel Management
033.02.00.00	Pre-flight preparation					APM Vol 3, Section 2 - Pre Flight Planning
033.02.01.00	AIP and NOTAM briefing					APM Vol 2, Section 1, Chapter 1 - Aviation Law and Legislation, Vol 2 Addendum
033.02.01.01	Ground facilities and services	×	×	×	×	APM Vol 2, Section 1, Chapter - 3 Aerodromes, APM Vol 3, Section 2, Chapter 5 - Introduction to Navigation Under Visual Flight Rules (VFR), Chapter 6 - The Route Plan
033.02.01.02	Departure, destination and alternate aerodromes	×	×	×	×	APM Vol 2, Section 1, Chapter - 3 Aerodromes, APM Vol 3, Section 2, Chapter 5 - Introduction to Navigation Under Visual Flight Rules (VFR), Chapter 6 - The Route Plan
033.02.01.03	Airway routings and airspace structure	×	×	×	×	APM Vol 2, Section 1, Chapter 5 - Airspace

030 FLIGHT PERFORMANCE & PLANNING (Page 3/3)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
033.02.02.00	Meteorological briefing					APM Vol 3, Section 3, Chapter 14 - Navigation in Bad Weather and Degraded Visual Environments, APM Vol 2, Section 2 Chapter 23 - Weather Forecasts and Reports
033.02.02.01	Extraction and analysis of relevant data from meteorological documents	×	×	×	×	APM Vol 2, Section 2 Chapter 23 - Weather Forecasts and Reports
033.03.00.00	ICAO flight plan (ATS flight plan)					APM Vol 3, Section 2, Chapter 11 - The Flight Plan Form
033.03.01.00	Individual flight plan					APM Vol 3, Section 2, Chapter 11 - The Flight Plan Form
033.03.01.01	Format of flight plan	×	×	×	×	APM Vol 3, Section 2, Chapter 11 - The Flight Plan Form
033.03.01.02	Completion of the flight plan	×	×	×	×	APM Vol 3, Section 2, Chapter 11 - The Flight Plan Form
033.03.01.03	Submission of the flight plan	×	×	×	×	APM Vol 3, Section 2, Chapter 11 - The Flight Plan Form
033.04.00.00	Flight monitoring and in-flight replanning					APM Vol 3, Section 3 - En Route Navigation
033.04.01.00	Flight monitoring					APM Vol 3, Section 3 - En Route Navigation
033.04.01.01	Monitoring of track and time	×	×	×	×	APM Vol 3, Section 3, Chapter 12 - En Route Navigation Techniques
033.04.01.02	In-flight fuel management	×	×	×	×	APM Vol 3, Section 2, Chapter 10 - Timing and Fuel Management, APM Vol 3, Section 3, Chapter 12 - En Route Navigation Techniques
033.04.01.03	In-flight re-planning in case of deviation from planned data	×	×	×	×	APM Vol 3, Section 3, Chapter 13 - Off Track Heading Corrections
034.00.00.00	PERFORMANCE: HELICOPTERS					-----
034.01.00.00	General					-----
034.01.01.00	Introduction					-----
034.01.01.01	Stages of flight			×	×	-----
034.01.01.02	Effect on performance of atmospheric, airport or heliport and helicopter conditions			×	×	-----
034.02.00.00	Applicability of airworthiness requirements			×	×	-----
034.03.00.00	Definitions and terminology			×	×	-----
034.03.01.00	Performance: SE helicopters					-----
034.03.01.01	Definitions of terms			×	×	-----
	(a) masses;			×	×	-----
	(b) velocities: V_x , V_y ;			×	×	-----
	(c) velocity of best range and of maximum endurance;			×	×	-----
	(d) power limitations;			×	×	-----
	(e) altitudes.			×	×	-----
034.03.02.00	Take-off, cruise and landing performance			×	×	-----
034.03.02.01	Use and interpretation of diagrams and tables:			×	×	-----
	(a) Take-off:			×	×	-----
	(1) take-off run and distance available;			×	×	-----
	(2) take-off and initial climb;			×	×	-----
	(3) effects of mass, wind and density altitude;			×	×	-----
	(4) effects of ground surface and gradient.			×	×	-----
	(b) Landing:			×	×	-----
	(1) effects of mass, wind, density altitude and approach speed;			×	×	-----
	(2) effects of ground surface and gradient.			×	×	-----
	(c) In-flight:			×	×	-----
	(1) relationship between power required and power available;			×	×	-----
	(2) performance diagram;			×	×	-----
	(3) effects of configuration, mass, temperature and altitude;			×	×	-----
	(4) reduction of performance during climbing turns;			×	×	-----
	(5) autorotation;			×	×	-----
	(6) adverse effects (icing, rain and condition of the airframe).			×	×	-----

040 HUMAN PERFORMANCE (Page 1/3)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
040.00.00.00	HUMAN PERFORMANCE					APM Vol 6
040.01.00.00	Human factors: basic concepts					APM Vol 6, Introduction
040.01.01.00	Human factors in aviation					APM Vol 6, Introduction
040.01.01.01	Becoming a competent pilot	×		×		APM Vol 6, Introduction
040.01.02.00	Basic aviation physiology and health maintenance					APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
040.01.02.01	The atmosphere:	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(a) composition;	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(b) gas laws.	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
040.01.02.02	Respiratory and circulatory systems:					APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(a) oxygen requirement of tissues;	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(b) functional anatomy;	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(c) main forms of hypoxia (hypoxic and anaemic):	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(1) sources, effects and countermeasures of carbon monoxide;	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(2) counter measures and hypoxia;	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(3) symptoms of hypoxia.	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(d) hyperventilation;	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(e) the effects of accelerations on the circulatory system;	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
	(f) hypertension and coronary heart disease.	×		×		APM Vol 6, Section 1, Chapter 1 - Human Physiology and High Altitudes
040.02.01.00	Man and environment					APM Vol 6, Section 1, Chapter 6 - Information Processing, Chapter 2 - Eyesight and Visual Illusions, Chapter 3 - Hearing and Balance,
040.02.01.01	Central, peripheral and autonomic nervous systems	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
040.02.01.02	Vision:					APM Vol 6, Section 1, Chapter 2 - Eyesight and Visual Illusions
	(a) functional anatomy;	×		×		APM Vol 6, Section 1, Chapter 2 - Eyesight and Visual Illusions
	(b) visual field, foveal and peripheral vision;	×		×		APM Vol 6, Section 1, Chapter 2 - Eyesight and Visual Illusions
	(c) binocular and monocular vision;	×		×		APM Vol 6, Section 1, Chapter 2 - Eyesight and Visual Illusions
	(d) monocular vision cues;	×		×		APM Vol 6, Section 1, Chapter 2 - Eyesight and Visual Illusions
	(e) night vision;	×		×		APM Vol 6, Section 1, Chapter 2 - Eyesight and Visual Illusions
	(f) visual scanning and detection techniques and importance of 'look-out';	×		×		APM Vol 6, Section 1, Chapter 2 - Eyesight and Visual Illusions
	(g) defective vision.	×		×		APM Vol 6, Section 1, Chapter 2 - Eyesight and Visual Illusions
040.02.01.03	Hearing:					APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(a) descriptive and functional anatomy;	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(b) flight related hazards to hearing;	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(c) hearing loss.	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
040.02.01.04	Equilibrium:					APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(a) functional anatomy;	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(b) motion and acceleration;	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(c) motion sickness.	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
040.02.01.05	Integration of sensory inputs:	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(a) spatial disorientation: forms, recognition and avoidance;	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(b) illusions: forms, recognition and avoidance:	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(1) physical origin;	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(2) physiological origin;	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(3) psychological origin.	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance
	(c) approach and landing problems.	×		×		APM Vol 6, Section 1, Chapter 3 - Hearing and Balance

040 HUMAN PERFORMANCE (Page 2/3)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
040.03.00.00	Health and hygiene					APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
040.03.01.01	Personal hygiene: personal fitness	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
040.03.01.02	Body rhythm and sleep:	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
	(a) rhythm disturbances;	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
	(b) symptoms, effects and management.	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
040.03.01.03	Problem areas for pilots:	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(a) common minor ailments including cold, influenza and gastro-intestinal upset;	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(b) entrapped gases and barotrauma, (scuba diving);	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(c) obesity;	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(d) food hygiene;	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(e) infectious diseases;	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(f) nutrition;	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(g) various toxic gases and materials.	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
040.03.01.04	Intoxication:	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(a) prescribed medication;	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(b) tobacco;	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(c) alcohol and drugs;	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(d) caffeine;	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
	(e) self-medication.	×		×		APM Vol 6, Section 1, Chapter 4 - Am I Fit to Fly?
040.04.00.00	Basic aviation psychology					APM Vol 6, Section 1, Chapter 6 - Information Processing
040.04.01.00	Human information processing					APM Vol 6, Section 1, Chapter 6 - Information Processing
040.04.01.01	Attention and vigilance:	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
	(a) selectivity of attention;	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
	(b) divided attention.	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
040.04.01.02	Perception:	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
	(a) perceptual illusions;	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
	(b) subjectivity of perception;	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
	(c) processes of perception.	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
040.04.01.03	Memory:	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
	(a) sensory memory;	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
	(b) working or short term memory;	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
	(c) long term memory to include motor memory (skills).	×		×		APM Vol 6, Section 1, Chapter 6 - Information Processing
040.05.00.00	Human error and reliability					APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
040.05.01.01	Reliability of human behaviour	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
040.05.01.02	Error generation: social environment (group, organisation)	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
040.06.00.00	Decision making					APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
040.06.01.01	Decision-making concepts:	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
	(a) structure (phases);	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
	(b) limits;	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
	(c) risk assessment;	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
	(d) practical application.	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making

040 HUMAN PERFORMANCE (Page 3/3)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
040.07.00.00	Avoiding and managing errors: cockpit management					APM Vol 6, Section 1, Chapter 8 - Airmanship & Threat & Error Management
040.07.01.01	Safety awareness:	×		×		APM Vol 6, Section 1, Chapter 8 - Airmanship and Threat and Error Management
	(a) risk area awareness;	×		×		APM Vol 6, Section 1, Chapter 8 - Airmanship and Threat and Error Management
	(b) situational awareness.	×		×		APM Vol 6, Section 1, Chapter 8 - Airmanship and Threat and Error Management
040.07.01.02	Communication: verbal and non-verbal communication	×		×		APM Vol 6, Section 1, Chapter 8 - Airmanship and Threat and Error Management
040.08.00.00	Human behaviour					APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
040.08.01.01	Personality and attitudes:	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
	(a) development;	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
	(b) environmental influences.	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
040.08.01.02	Identification of hazardous attitudes (error proneness)	×		×		APM Vol 6, Section 1, Chapter 7 - Judgement and Decision-Making
040.09.01.00	Human overload and underload					APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
040.09.01.01	Arousal	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
040.09.01.02	Stress:	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
	(a) definition(s);	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
	(b) anxiety and stress;	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
	(c) effects of stress.	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
040.09.01.03	Fatigue and stress management:	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
	(a) types, causes and symptoms of fatigue;	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
	(b) effects of fatigue;	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
	(c) coping strategies;	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
	(d) management techniques;	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep
	(e) health and fitness programmes;	×		×		APM Vol 6, Section 1, Chapter 5 - Stress Management, Fatigue and Sleep

050 METEOROLOGY (Page 1/4)

Syllabus Reference		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
		PPL	B.C.	PPL	B.C.	
Syllabus Details & Associated Learning Objective						
050.00.00.00	METEOROLOGY					APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.01.00.00	The atmosphere					APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.01.01.00	Composition, extent and vertical division					APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.01.01.01	Structure of the atmosphere	×		×		APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.01.01.02	Troposphere	×		×		APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.01.02.00	Air temperature					APM Vol 2, Section 2, Chapter 17 - Heating Effects in the Atmosphere
050.01.02.01	Definition and units	×		×		APM Vol 2, Section 2, Chapter 17 - Heating Effects in the Atmosphere
050.01.02.02	Vertical distribution of temperature Transfer of heat	×		×		APM Vol 2, Section 2, Chapter 17 - Heating Effects in the Atmosphere
050.01.02.03	Lapse rates, stability and instability	×		×		APM Vol 2, Section 2, Chapter 17 - Heating Effects in the Atmosphere
050.01.02.04	Development of inversions and types of inversions	×		×		APM Vol 2, Section 2, Chapter 17 - Heating Effects in the Atmosphere
050.01.02.05	Temperature near the earth's surface, surface effects, diurnal and seasonal variation, effect of clouds and effect of wind	×		×		APM Vol 2, Section 2, Chapter 17 - Heating Effects in the Atmosphere
050.01.03.00	Atmospheric pressure					APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.01.03.01	Barometric pressure and isobars	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.01.03.02	Pressure variation with height	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.01.03.03	Reduction of pressure to mean sea level	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.01.03.04	Relationship between surface pressure centres and pressure centres aloft	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.01.04.00	Air density					APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.01.04.01	Relationship between pressure, temperature and density	×		×		APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.01.04.02	ISA	×		×		APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.02.00.00	ICAO standard atmosphere	×		×		APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.02.01.00	Altimetry					APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.02.01.01	Terminology and definitions	×		×		APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.02.01.02	Altimeter and altimeter settings	×		×		APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.02.01.03	Calculations	×		×		APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.02.01.04	Effect of accelerated airflow due to topography	×		×		APM Vol 2, Section 2, Chapter 16 - Aviation Meteorology
050.03.00.00	WIND					APM Vol 2, Section 2, Chapter 18 - Wind
050.03.01.00	Definition and measurement of wind					APM Vol 2, Section 2, Chapter 18 - Wind
050.03.01.01	Definition and measurement	×		×		APM Vol 2, Section 2, Chapter 18 - Wind
050.03.02.00	Primary cause of wind					APM Vol 2, Section 2, Chapter 18 - Wind
050.03.02.01	Primary cause of wind, pressure gradient, coriolis force and gradient wind	×		×		APM Vol 2, Section 2, Chapter 18 - Wind
050.03.02.02	Variation of wind in the friction layer	×		×		APM Vol 2, Section 2, Chapter 18 - Wind
050.03.02.03	Effects of convergence and divergence	×		×		APM Vol 2, Section 2, Chapter 18 - Wind
050.03.03.00	General global circulation					APM Vol 2, Section 2, Chapter 17 - Heating Effects in the Atmosphere
050.03.03.01	General circulation around the globe	×		×		APM Vol 2, Section 2, Chapter 17 - Heating Effects in the Atmosphere
050.03.04.00	Local winds					APM Vol 2, Section 2, Chapter 18 - Wind
050.03.04.01	Anabatic and katabatic winds, mountain and valley winds, Venturi effects, land and sea breezes	×		×		APM Vol 2, Section 2, Chapter 18 - Wind
050.03.05.00	Mountain waves (standing waves, lee waves)					APM Vol 2, Section 2, Chapter 18 - Wind
050.03.05.01	Origin and characteristics	×		×		APM Vol 2, Section 2, Chapter 18 - Wind
050.03.06.00	Turbulence					APM Vol 2, Section 2, Chapter 18 - Wind
050.03.06.01	Description and types of turbulence	×		×		APM Vol 2, Section 2, Chapter 18 - Wind
050.03.06.02	Formation and location of turbulence	×		×		APM Vol 2, Section 2, Chapter 18 - Wind

050 METEOROLOGY (Page 2/4)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
050.04.00.00	THERMODYNAMICS					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.04.01.00	Humidity					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.04.01.01	Water vapour in the atmosphere	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.04.01.02	Mixing ratio	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.04.01.03	Temperature/dew point, relative humidity	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.04.02.00	Change of state of aggregation					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.04.02.01	Condensation, evaporation, sublimation, freezing and melting, latent heat	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.04.03.00	Adiabatic processes					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.04.03.01	Adiabatic processes, stability of the atmosphere	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.00.00	CLOUDS AND FOG					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.01.00	Cloud formation and description					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.01.01	Cooling by adiabatic expansion and by advection	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.01.02	Cloud types and cloud classification	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.01.03	Influence of inversions on cloud development	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.02.00	Fog, mist, haze					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.02.01	General aspects	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.02.02	Radiation fog	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.02.03	Advection fog	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.02.04	Steaming fog	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.02.05	Frontal fog	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.05.02.06	Orographic fog (hill fog)	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.06.00.00	PRECIPITATION					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.06.01.00	Development of precipitation					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.06.01.01	Processes of development of precipitation	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.06.02.00	Types of precipitation					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.06.02.01	Types of precipitation, relationship with cloud types	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.07.00.00	AIR MASSES AND FRONTS					APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.01.00	Air masses					APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.01.01	Description, classification and source regions of air masses	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.01.02	Modifications of air masses	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.02.00	Fronts					APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.02.01	General aspects	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.02.02	Warm front, associated clouds and weather	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.02.03	Cold front, associated clouds and weather	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.02.04	Warm sector, associated clouds and weather	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.02.05	Weather behind the cold front	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.02.06	Occlusions, associated clouds and weather	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.02.07	Stationary front, associated clouds and weather	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.02.08	Movement of fronts and pressure systems, life cycle	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.07.02.09	Changes of meteorological elements at a frontal wave	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.08.00.00	PRESSURE SYSTEMS					APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.08.01.00	Anticyclone					APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.08.01.01	Anticyclones, types, general properties, cold and warm anticyclones, ridges and wedges, subsidence	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.08.02.00	Non frontal depressions					APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.08.02.01	Thermal, orographic, polar depressions, troughs	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather

050 METEOROLOGY (Page 3/4)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
050.09.00.00	CLIMATOLOGY					APM Vol 2 Addendum
050.09.01.00	Climatic zones					APM Vol 2 Addendum
050.09.01.01	General seasonal circulation in the troposphere	×		×		APM Vol 2, Section 2, Chapter 17 - Heating Effects in the Atmosphere
050.09.02.00	Typical weather situations in the mid-latitudes					APM Vol 2 Addendum
050.09.02.01	Westerly situation	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.09.02.02	High pressure area	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.09.02.03	Flat pressure pattern	×		×		APM Vol 2, Section 2, Chapter 21 - Air Masses, Pressure Systems & Frontal Weather
050.09.03.00	Local winds and associated weather					APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.09.03.01	e.g. Foehn	×		×		APM Vol 2, Section 2, Chapter 19 - Cloud and Precipitation
050.10.00.00	FLIGHT HAZARDS					APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.01.00	Icing					APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.01.01	Conditions for ice accretion	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.01.02	Types of ice accretion	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.01.03	Hazards of ice accretion, avoidance	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.02.00	Turbulence					APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.02.01	Effects on flight, avoidance	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.03.00	Wind shear					APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.03.01	Definition of wind shear	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.03.02	Weather conditions for wind shear	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.03.03	Effects on flight, avoidance	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.04.00	Thunderstorms					APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.04.01	Conditions for and process of development, forecast, location, type specification	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.04.02	Structure of thunderstorms, life history, squall lines, electricity in the atmosphere, static charges	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.04.03	Electrical discharges	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.04.04	Development and effects of downbursts	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.04.05	Thunderstorm avoidance	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.05.00	Inversions					APM Vol 2, Section 2, Chapter 17 - Heating Effects in the Atmosphere, Chapter 20 - Visibility
050.10.05.01	Influence on aircraft performance	×		×		APM Vol 6, Operational Procedures, Chapter 4 - Windshear and Microburst
050.10.06.00	Hazards in mountainous areas					APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.06.01	Influence of terrain on clouds and precipitation, frontal passage	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.06.02	Vertical movements, mountain waves, wind shear, turbulence, ice accretion	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.06.03	Development and effect of valley inversions	×		×		APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions, Thunderstorms, Icing
050.10.07.00	Visibility reducing phenomena					APM Vol 2, Section 2, Chapter 20 - Visibility
050.10.07.01	Reduction of visibility caused by precipitation and obscuration	×		×		APM Vol 2, Section 2, Chapter 20 - Visibility
050.10.07.02	Reduction of visibility caused by other phenomena	×		×		APM Vol 2, Section 2, Chapter 20 - Visibility
050.11.00.00	METEOROLOGICAL INFORMATION					APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.01.00	Observation					APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.01.01	Surface observations	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.01.02	Radiosonde observations	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.01.03	Satellite observations	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.01.04	Weather radar observations	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.01.05	Aircraft observations and reporting	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports

050 METEOROLOGY (Page 4/4)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
050.11.02.00	Weather charts					APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.02.01	Significant weather charts	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.02.02	Surface charts	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.03.00	Information for flight planning					APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.03.01	Aviation weather messages	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.03.02	Meteorological broadcasts for aviation	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.03.03	Use of meteorological documents	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.03.04	Meteorological warnings	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.04.00	Meteorological services					APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports
050.11.04.01	World area forecast system and meteorological offices	×		×		APM Vol 2, Section 2, Chapter 23 - Weather Forecasts and Reports

060 NAVIGATION (Page 1/4)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
060.00.00.00	NAVIGATION					APM Vol 3
061.00.00.00	GENERAL NAVIGATION					APM Vol 3
061.01.00.00	Basics of navigation					APM Vol 3, Section 1, Chapter 1 - The Earth, Chapter 2 - Aeronautical Charts, Chapter 3 - Time, Chapter 4 - The Magnetic Compass and Direction
061.01.01.00	The solar system					APM Vol 3, Section 1, Chapter 1 - The Earth
061.01.01.01	Seasonal and apparent movements of the sun	×		×		APM Vol 3, Section 1, Chapter 1 - The Earth
061.01.02.00	The earth					APM Vol 3, Section 1, Chapter 1 - The Earth
061.01.02.01	Great circle, small circle and rhumb line	×		×		APM Vol 3, Section 1, Chapter 1 - The Earth
061.01.02.02	Latitude and difference of latitude	×		×		APM Vol 3, Section 1, Chapter 1 - The Earth
061.01.02.03	Longitude and difference of longitude	×		×		APM Vol 3, Section 1, Chapter 1 - The Earth
061.01.02.04	Use of latitude and longitude co-ordinates to locate any specific position	×		×		APM Vol 3, Section 1, Chapter 1 - The Earth
061.01.03.00	Time and time conversions					APM Vol 3, Section 1, Chapter 3 - Time
061.01.03.01	Apparent time	×		×		APM Vol 3, Section 1, Chapter 3 - Time
061.01.03.02	UTC	×		×		APM Vol 3, Section 1, Chapter 3 - Time
061.01.03.03	LMT	×		×		APM Vol 3, Section 1, Chapter 3 - Time
061.01.03.04	Standard times	×		×		APM Vol 3, Section 1, Chapter 3 - Time
061.01.03.05	Dateline	×		×		APM Vol 3, Section 1, Chapter 3 - Time
061.01.03.06	Definition of sunrise, sunset and civil twilight	×		×		APM Vol 3, Section 1, Chapter 3 - Time
061.01.04.00	Directions					APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.01.04.01	True north, magnetic north and compass north	×		×		APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.01.04.02	Compass deviation	×		×		APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.01.04.03	Magnetic poles, isogonals, relationship between true and magnetic	×		×		APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.01.05.00	Distance					APM Vol 3, Section 1, Chapter 1 - The Earth
061.01.05.01	Units of distance and height used in navigation: nautical miles, statute miles, kilometres, metres and ft	×		×		APM Vol 3, Section 1, Chapter 1 - The Earth, Section 2, Chapter 7 - Vertical Navigation,
061.01.05.02	Conversion from one unit to another	×		×		APM Vol 3, Section 1, Chapter 1 - The Earth, Section 2, Chapter 6 - The Route Plan
061.01.05.03	Relationship between nautical miles and minutes of latitude and minutes of longitude	×		×		APM Vol 3, Section 1, Chapter 1 - The Earth
061.02.00.00	Magnetism and compasses					APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.02.01.00	General principles					APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.02.01.01	Terrestrial magnetism	×		×		APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.02.01.02	Resolution of the earth's total magnetic force into vertical and horizontal components	×		×		APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.02.01.03	Variation-annual change	×		×		APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts
061.02.02.00	Aircraft magnetism					APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.02.02.01	The resulting magnetic fields	×		×		APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.02.02.02	Keeping magnetic materials clear of the compass	×		×		APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction
061.03.00.00	Charts					APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts
061.03.01.00	General properties of miscellaneous types of projections					APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts
061.03.01.01	Direct Mercator	×		×		APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts
061.03.01.02	Lambert conformal conic	×		×		APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts
061.03.02.00	The representation of meridians, parallels, great circles and rhumb lines					APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts, Section 2, Chapter 6 - The Route Plan
061.03.02.01	Direct Mercator	×		×		APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts, Section 2, Chapter 6 - The Route Plan
061.03.02.02	Lambert conformal conic	×		×		APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts, Section 2, Chapter 6 - The Route Plan

060 NAVIGATION (Page 2/4)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
061.03.03.00	The use of current aeronautical charts					APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts
061.03.03.01	Plotting positions	×		×		APM Vol 3, Section 1, Chapter 1 - The Earth
061.03.03.02	Methods of indicating scale and relief (ICAO topographical chart)	×		×		APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts
061.03.03.03	Conventional signs	×		×		APM Vol 3, Section 1, Chapter 2 - Aeronautical Charts
061.03.03.04	Measuring tracks and distances	×		×		APM Vol 3, Section 2, Chapter 6 - The Route Plan
061.03.03.05	Plotting bearings and distances	×		×		APM Vol 3, Section 2, Chapter 6 - The Route Plan
061.04.00.00	DR navigation					APM Vol 3, Section 2, Section 3
061.04.01.00	Basis of DR					APM Vol 3, Section 2, Chapter 5 - Introduction to Navigation Under Visual Flight Rules, Chapter 6 - The Route Plan, Chapter 9 - Drift, Heading and Groundspeed Calculations, Chapter 10 - Timing and Fuel Management
061.04.01.01	Track	×		×		APM Vol 3, Section 2, Chapter 6 - The Route Plan
061.04.01.02	Heading (compass, magnetic and true)	×		×		APM Vol 3, Section 1, Chapter 4 - The Magnetic Compass and Direction, Chapter 9 - Drift, Heading and Groundspeed Calculations
061.04.01.03	Wind velocity	×		×		APM Vol 3, Section 2, Chapter 9 - Drift, Heading and Groundspeed Calculations
061.04.01.04	Air speed (IAS, CAS and TAS)	×		×		APM Vol 3, Section 2, Chapter 8 - Airspeed
061.04.01.05	Groundspeed	×		×		APM Vol 3, Section 2, Chapter 9 - Drift, Heading and Groundspeed Calculations
061.04.01.06	ETA	×		×		APM Vol 3, Section 2, Chapter 10 - Timing and Fuel Management
061.04.01.07	Drift and wind correction angle	×		×		APM Vol 3, Section 2, Chapter 9 - Drift, Heading and Groundspeed Calculations, Section 3, Chapter 12 - En Route Navigation Techniques
061.04.01.08	DR position fix	×		×		APM Vol 3, Section 3, Chapter 12 - En Route Navigation Techniques
061.04.02.00	Use of the navigational computer					APM Vol 3, Section 2, Chapter 8 - Airspeed, Chapter 9 - Drift, Heading and Groundspeed Calculations, Chapter 10 - Timing and Fuel Management
061.04.02.01	Speed	×		×		APM Vol 3, Section 2, Chapter 8 - Airspeed
061.04.02.02	Time	×		×		APM Vol 3, Section 2, Chapter 10 - Timing and Fuel Management
061.04.02.03	Distance	×		×		APM Vol 3, Section 2, Chapter 10 - Timing and Fuel Management
061.04.02.04	Fuel consumption	×		×		APM Vol 3, Section 2, Chapter 10 - Timing and Fuel Management
061.04.02.05	Conversions	×		×		APM Vol 3, Section 2, Chapter 8 - Airspeed, Chapter 10 - Timing and Fuel Management
061.04.02.06	Air speed	×		×		APM Vol 3, Section 2, Chapter 8 - Airspeed
061.04.02.07	Wind velocity	×		×		APM Vol 3, Section 2, Chapter 9 - Drift, Heading and Groundspeed Calculations
061.04.02.08	True altitude	×		×		APM Vol 3 Addendum
061.04.03.00	The triangle of velocities					APM Vol 3, Section 2, Chapter 9 - Drift, Heading and Groundspeed Calculations
061.04.03.01	Heading	×		×		APM Vol 3, Section 2, Chapter 9 - Drift, Heading and Groundspeed Calculations
061.04.03.02	Ground speed	×		×		APM Vol 3, Section 2, Chapter 9 - Drift, Heading and Groundspeed Calculations
061.04.03.03	Wind velocity	×		×		APM Vol 3, Section 2, Chapter 9 - Drift, Heading and Groundspeed Calculations
061.04.03.04	Track and drift angle	×		×		APM Vol 3, Section 2, Chapter 9 - Drift, Heading and Groundspeed Calculations
061.04.04.00	Measurement of DR elements					APM Vol 3, Section 2, Chapter 7 - Vertical Navigation, Chapter 8 - Airspeed, Chapter 9 - Drift, Heading and Groundspeed Calculations
061.04.04.01	Calculation of altitude	×		×		APM Vol 3, Section 2, Chapter 7 - Vertical Navigation
061.04.04.02	Determination of appropriate speed	×		×		APM Vol 3, Section 2, Chapter 8 - Airspeed, Chapter 9 - Drift, Heading and Groundspeed Calculations
	In-flight navigation					APM Vol 3, Section 3
061.05.00.00	Use of visual observations and application to in-flight navigation	×		×		APM Vol 3, Section 3, Chapter 12 - En Route Navigation Techniques
061.05.01.00	Navigation in cruising flight, use of fixes to revise navigation data					APM Vol 3, Section 3, Chapter 12 - En Route Navigation Techniques
061.05.01.01	Ground speed revision	×		×		APM Vol 3, Section 3, Chapter 12 - En Route Navigation Techniques
061.05.01.02	Off-track corrections	×		×		APM Vol 3, Section 3, Chapter 13 - OffTrack Heading Corrections
061.05.01.03	Calculation of wind speed and direction	×		×		APM Vol 3, Section 2, Chapter 9 - Drift, Heading and Groundspeed Calculations Section 3, Chapter 12 - En Route Navigation Techniques
061.05.01.04	ETA revisions	×		×		APM Vol 3, Section 3, Chapter 12 - En Route Navigation Techniques

060 NAVIGATION (Page 3/4)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
061.06.00.00	Flight log	×		×		APM Vol 3, Section 2 - Pre Flight Planning, Section 3 - En Route Navigation
061.07.00.00	RADIO NAVIGATION					APM Vol 3, Section 4 - En Route Navigation with Radio Navigation Aids
061.07.00.00	Basic radio propagation theory					APM Vol 3, Section 4, Chapter 18 - Radar
061.07.01.00	Antennas					APM Vol 3, Section 4 - En Route Navigation with Radio Navigation Aids
061.07.01.01	Characteristics	×		×		APM Vol 3, Section 4 - En Route Navigation with Radio Navigation Aids
061.07.02.00	Wave propagation					APM Vol 3, Section 4 - En Route Navigation with Radio Navigation Aids
061.07.02.01	Propagation with the frequency bands	×		×		APM Vol 3, Section 4 - En Route Navigation with Radio Navigation Aids
061.08.00.00	Radio aids					APM Vol 3, Section 4 - En Route Navigation with Radio Navigation Aids
061.08.01.00	Ground DF					APM Vol 3, Section 4, Chapter 23 - VHF Direction Finding
061.08.01.01	Principles	×		×		APM Vol 3, Section 4, Chapter 23 - VHF Direction Finding
061.08.01.02	Presentation and interpretation	×		×		APM Vol 3, Section 4, Chapter 23 - VHF Direction Finding
061.08.01.03	Coverage	×		×		APM Vol 3, Section 4, Chapter 23 - VHF Direction Finding
061.08.01.04	Range	×		×		APM Vol 3, Section 4, Chapter 23 - VHF Direction Finding
061.08.01.05	Errors and accuracy	×		×		APM Vol 3, Section 4, Chapter 23 - VHF Direction Finding
061.08.01.06	Factors affecting range and accuracy	×		×		APM Vol 3, Section 4, Chapter 23 - VHF Direction Finding
061.08.02.00	NDB/ADF					APM Vol 3, Section 4, Chapter 22 - The NDB and the ADF
061.08.02.01	Principles	×		×		APM Vol 3, Section 4, Chapter 22 - The NDB and the ADF
061.08.02.02	Presentation and interpretation	×		×		APM Vol 3, Section 4, Chapter 22 - The NDB and the ADF
061.08.02.03	Coverage	×		×		APM Vol 3, Section 4, Chapter 22 - The NDB and the ADF
061.08.02.04	Range	×		×		APM Vol 3, Section 4, Chapter 22 - The NDB and the ADF
061.08.02.05	Errors and accuracy	×		×		APM Vol 3, Section 4, Chapter 22 - The NDB and the ADF
061.08.02.06	Factors affecting range and accuracy	×		×		APM Vol 3, Section 4, Chapter 22 - The NDB and the ADF
061.08.03.00	VOR					APM Vol 3, Section 4, Chapter 20 - The VOR
061.08.03.01	Principles	×		×		APM Vol 3, Section 4, Chapter 20 - The VOR
061.08.03.02	Presentation and interpretation	×		×		APM Vol 3, Section 4, Chapter 20 - The VOR
061.08.03.03	Coverage	×		×		APM Vol 3, Section 4, Chapter 20 - The VOR
061.08.03.04	Range	×		×		APM Vol 3, Section 4, Chapter 20 - The VOR
061.08.03.05	Errors and accuracy	×		×		APM Vol 3, Section 4, Chapter 20 - The VOR
061.08.03.06	Factors affecting range and accuracy	×		×		APM Vol 3, Section 4, Chapter 20 - The VOR
061.08.04.00	DME					APM Vol 3, Section 4, Chapter 21 - DME
061.08.04.01	Principles	×		×		APM Vol 3, Section 4, Chapter 21 - DME
061.08.04.02	Presentation and interpretation	×		×		APM Vol 3, Section 4, Chapter 21 - DME
061.08.04.03	Coverage	×		×		APM Vol 3, Section 4, Chapter 21 - DME
061.08.04.04	Range	×		×		APM Vol 3, Section 4, Chapter 21 - DME
061.08.04.05	Errors and accuracy	×		×		APM Vol 3, Section 4, Chapter 21 - DME
061.08.04.06	Factors affecting range and accuracy	×		×		APM Vol 3, Section 4, Chapter 21 - DME
061.09.00.00	Radar					APM Vol 3, Section 4, Chapter 18 - Radar
061.09.01.00	Ground radar					APM Vol 3, Section 4, Chapter 18 - Radar
061.09.01.01	Principles	×		×		APM Vol 3, Section 4, Chapter 18 - Radar
061.09.01.02	Presentation and interpretation	×		×		APM Vol 3, Section 4, Chapter 18 - Radar
061.09.01.03	Coverage	×		×		APM Vol 3, Section 4, Chapter 18 - Radar
061.09.01.04	Range	×		×		APM Vol 3, Section 4, Chapter 18 - Radar
061.09.01.05	Errors and accuracy	×		×		APM Vol 3, Section 4, Chapter 18 - Radar
061.09.01.06	Factors affecting range and accuracy	×		×		APM Vol 3, Section 4, Chapter 18 - Radar
061.09.02.00	Secondary surveillance radar and transponder					APM Vol 3, Section 4, Chapter 18 - Radar
061.09.02.01	Principles	×		×		APM Vol 3, Section 4, Chapter 18 - Radar
061.09.02.02	Presentation and interpretation	×		×		APM Vol 3, Section 4, Chapter 18 - Radar
061.09.02.03	Modes and codes	×		×		APM Vol 3, Section 4, Chapter 18 - Radar

060 NAVIGATION (Page 4/4)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
061.10.00.00	GNSS					APM Vol 3, Section 4, Chapter 19 - Global Positioning System (GPS)
061.10.01.00	GPS, GLONASS OR GALILEO					APM Vol 3, Section 4, Chapter 19 - Global Positioning System (GPS)
061.10.01.01	Principles	×		×		APM Vol 3, Section 4, Chapter 19 - Global Positioning System (GPS)
061.10.01.02	Operation	×		×		APM Vol 3, Section 4, Chapter 19 - Global Positioning System (GPS)
061.10.01.03	Errors and accuracy	×		×		APM Vol 3, Section 4, Chapter 19 - Global Positioning System (GPS)
061.10.01.04	Factors affecting accuracy	×		×		APM Vol 3, Section 4, Chapter 19 - Global Positioning System (GPS)

070 OPERATIONAL PROCEDURES (Page 1/2)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
070.00.00.00	OPERATIONAL PROCEDURES					APM Vol 6, Operational Procedures
070.01.00.00	General					APM Vol 6, Operational Procedures
070.01.01.00	Operation of aircraft: ICAO Annex 6, General requirements					APM Vol 6, Operational Procedures, Chapter 1 - Operation of Aircraft
070.01.01.01	Definitions	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 1 - Operation of Aircraft
070.01.01.02	Applicability	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 1 - Operation of Aircraft
070.02.00.00	Special operational procedures and hazards (general aspects)	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 2 - Noise Abatement Procedures
070.03.00.00	Noise abatement					APM Vol 6, Operational Procedures, Chapter 2 - Noise Abatement Procedures
070.03.01.01	Noise abatement procedures	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 2 - Noise Abatement Procedures
070.03.01.02	Influence of the flight procedure (departure, cruise and approach)	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 2 - Noise Abatement Procedures
070.03.01.03	Runway incursion awareness (meaning of surface markings and signals)	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 2 - Noise Abatement Procedures
070.04.00.00	Fire or smoke					APM Vol 6, Operational Procedures, Chapter 3 - Fire or Smoke
070.04.01.01	Carburettor fire	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 3 - Fire or Smoke
070.04.01.02	Engine fire	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 3 - Fire or Smoke
070.04.01.03	Fire in the cabin and cockpit, (choice of extinguishing agents according to fire classification and use of the extinguishers)	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 3 - Fire or Smoke
070.04.01.04	Smoke in the cockpit and (effects and action to be taken) and smoke in the cockpit and cabin (effects and actions taken)	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 3 - Fire or Smoke
070.05.01.00	Windshear and microburst					APM Vol 6, Operational Procedures, Chapter 4 - Windshear and Microburst
070.05.01.01	Effects and recognition during departure and approach	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 4 - Windshear and Microburst
070.05.01.02	Actions to avoid and actions taken during encounter	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 4 - Windshear and Microburst
070.06.00.00	Wake turbulence					APM Vol 6, Operational Procedures, Chapter 5 - Wake Turbulence
070.06.01.01	Cause	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 5 - Wake Turbulence
070.06.01.02	List of relevant parameters	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 5 - Wake Turbulence
070.06.01.03	Actions taken when crossing traffic, during take-off and landing	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 5 - Wake Turbulence
070.07.00.00	Emergency and precautionary landings					APM Vol 6, Operational Procedures, Chapter 6 - Emergency and Precautionary Landings
070.07.01.01	Definition	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 6 - Emergency and Precautionary Landings
070.07.01.02	Cause	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 6 - Emergency and Precautionary Landings
070.07.01.03	Passenger information	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 6 - Emergency and Precautionary Landings
070.07.01.04	Evacuation	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 6 - Emergency and Precautionary Landings
070.07.01.05	Action after landing	×	×	×	×	APM Vol 6, Operational Procedures, Chapter 6 - Emergency and Precautionary Landings
070.08.00.00	Contaminated runways					APM Vol 6, Operational Procedures, Chapter 7 - Contaminated Runways
070.08.01.01	Kinds of contamination	×	×			APM Vol 6, Operational Procedures, Chapter 7 - Contaminated Runways
070.08.01.02	Estimated surface friction and friction coefficient	×	×			APM Vol 6, Operational Procedures, Chapter 7 - Contaminated Runways
070.09.00.00	Rotor downwash			×	×	-
070.10.00.00	Operation influence by meteorological conditions (Helicopter)					-
070.10.01.01	White out, sand or dust			×	×	-
070.10.01.02	Strong winds			×	×	-
070.10.01.03	Mountain environment			×	×	-

070 OPERATIONAL PROCEDURES (Page 2/2)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
070.11.00.00	Emergency procedures					-
070.11.01.00	Influence by technical problems					-
070.11.01.01	Engine failure			×	×	-
070.11.01.02	Fire in cabin, cockpit or engine			×	×	-
070.11.01.03	Tail, rotor or directional control failure			×	×	-
070.11.01.04	Ground resonance			×	×	-
070.11.01.05	Blade stall			×	×	-
070.11.01.06	Settling with power (vortex ring)			×	×	-
070.11.01.07	Overpitch			×	×	-
070.11.01.08	Overspeed: rotor or engine			×	×	-
070.11.01.09	Dynamic rollover			×	×	-
070.11.01.10	Mast bumping			×	×	-

080 PRINCIPLES OF FLIGHT (Page 1/5)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
080.00.00.00	PRINCIPLES OF FLIGHT					APM Vol 4
081.00.00.00	PRINCIPLES OF FLIGHT: AEROPLANE					APM Vol 4
081.01.00.00	Subsonic aerodynamics					APM Vol 4
081.01.01.00	Basics concepts, laws and definitions					APM Vol 4, Section 1 - Principles of Flight
081.01.01.01	Laws and definitions:	×	×			APM Vol 4, Section 1 - Principles of Flight
	(a) conversion of units;	×	×			APM Vol 4, Section 4, Chapter 30 - The Atmosphere, Chapter 33 - mass and Balance, APM Vol 3, Section 2, Chapter 8 - Airspeed
	(b) Newton's laws;	×	×			APM Vol 4, Section 1, Chapter 1 - The Forces Acting on an Aeroplane
	(c) Bernoulli's equation and venture;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(d) static pressure, dynamic pressure and total pressure;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(e) density;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(f) IAS and TAS.	×	×			APM Vol 4, Section 1, Chapter 5 - Lift/ Drag Ratio, Section 3, Chapter 25 - Pressure Instruments
081.01.01.02	Basics about airflow:	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(a) streamline;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(b) two-dimensional airflow;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(c) three-dimensional airflow.	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
081.01.01.03	Aerodynamic forces on surfaces:	×	×			APM Vol 4, Section 1, Chapter 2 - Weight, Chapter 3 - Aerofoil Lift, Chapter 4 - Drag, Chapter 5 - Lift / Drag Ratio, Chapter 6 - Thrust from the Propeller
	(a) resulting airforce;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(b) lift;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(c) drag;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(d) angle of attack.	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.01.01.04	Shape of an aerofoil section:	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(a) thickness to chord ratio;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(b) chord line;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(c) camber line;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(d) camber;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(e) angle of attack.	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.01.01.05	The wing shape:	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(a) aspect ratio;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(b) root chord;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(c) tip chord;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(d) tapered wings;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(e) wing planform.	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
081.02.01.00	The two-dimensional airflow about an aerofoil					APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.02.01.01	Streamline pattern	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.02.01.02	Stagnation point	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.02.01.03	Pressure distribution	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.02.01.04	Centre of pressure	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.02.01.05	Influence of angle of attack	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.02.01.06	Flow separation at high angles of attack	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.02.01.07	The lift – a graph	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.03.01.00	The coefficients					APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift, Chapter 4 - Drag
081.03.01.01	The lift coefficient C_L ; the lift formula	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.03.01.02	The drag coefficient C_D ; the drag formula	×	×			APM Vol 4, Section 1, Chapter 4 - Drag

080 PRINCIPLES OF FLIGHT (Page 2/5)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
081.04.01.00	The three-dimensional airflow round a wing and a fuselage					APM Vol 4, Section 1, Chapter 4 - Drag
081.04.01.01	Streamline pattern:	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(a) span-wise flow and causes;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(b) tip vortices and angle of attack;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(c) upwash and downwash due to tip vortices;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(d) wake turbulence behind an aeroplane (causes, distribution and duration of the phenomenon).	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
081.04.01.02	Induced drag:	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(a) influence of tip vortices on the angle of attack;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(b) the induced local α ;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(c) influence of induced angle of attack on the direction of the lift vector;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(d) induced drag and angle of attack.	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
081.05.01.00	Drag					APM Vol 4, Section 1, Chapter 4 - Drag
081.05.01.01	The parasite drag:	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(a) pressure drag;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(b) interference drag;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
	(c) friction drag.	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
081.05.01.02	The parasite drag and speed	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
081.05.01.03	The induced drag and speed	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
081.05.01.04	The total drag	×	×			APM Vol 4, Section 1, Chapter 4 - Drag
081.06.01.00	The ground effect					APM Vol 4, Section 4, Chapter 35 - Ground Effect
081.06.01.01	Effect on take off and landing characteristics of an aeroplane	×	×			APM Vol 4, Section 4, Chapter 35 - Ground Effect
081.07.01.00	The stall					APM Vol 4, Section 1, Chapter 14 - Stalling
081.07.01.01	Flow separation at increasing angles of attack:	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(a) the boundary layer:	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(1) laminar layer;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(2) turbulent layer;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(3) transition.	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(b) separation point;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(c) influence of angle of attack;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(d) influence on:	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(1) pressure distribution;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(2) location of centre of pressure;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(3) C_{l_i} ;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(4) C_{p_i} ;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(5) pitch moments.	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(e) buffet;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(f) use of controls.	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
081.07.01.02	The stall speed:	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(a) in the lift formula;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(b) 1g stall speed;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(c) influence of:	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(1) the centre of gravity;	×	×			APM Vol 4, Addendum, Section 1, Chapter 14 - Stalling
	(2) power setting;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(3) altitude (IAS);	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(4) wing loading;	×	×			APM Vol 4, Addendum, Section 1, Chapter 14 - Stalling
	(5) load factor n:	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling

080 PRINCIPLES OF FLIGHT (Page 3/5)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
	(i) definition;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(ii) turns;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(iii) forces.	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
081.07.01.03	The initial stall in span-wise direction:	×	×			APM Vol 4, Section 1, Chapter 4 - Drag, APM Vol 4, Section 1, Chapter 14 - Stalling
	(a) influence of planform;	×	×			APM Vol 4, Section 1, Chapter 4 - Drag, APM Vol 4, Section 1, Chapter 14 - Stalling
	(b) geometric twist (wash out);	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(c) use of ailerons.	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
081.07.01.04	Stall warning:	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(a) importance of stall warning;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(b) speed margin;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(c) buffet;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(d) stall strip;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(e) flapper switch;	×	×			APM Vol Addendum
	(f) recovery from stall.	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
081.07.01.05	Special phenomena of stall:	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling, APM Vol Addendum
	(a) the power-on stall;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(b) climbing and descending turns;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(c) t-tailed aeroplane;	×	×			APM Vol Addendum
	(d) avoidance of spins:	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(1) spin development;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(2) spin recognition;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(3) spin recovery.	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling
	(e) ice (in stagnation point and on surface):	×	×			APM Vol Addendum
	(1) absence of stall warning;	×	×			APM Vol Addendum
	(2) abnormal behaviour of the aircraft during stall.	×	×			APM Vol Addendum
081.08.01.00	C_l augmentation					APM Vol 4, Section 1, Chapter 9 - Flaps
081.08.01.01	Trailing edge flaps and the reasons for use in take-off and landing:	×	×			APM Vol 4, Section 1, Chapter 9 - Flaps
	(a) influence on $C_l - \alpha$ -graph;	×	×			APM Vol 4, Section 1, Chapter 9 - Flaps
	(b) different types of flaps;	×	×			APM Vol 4, Section 1, Chapter 9 - Flaps
	(c) flap asymmetry;	×	×			APM Vol Addendum
	(d) influence on pitch movement.	×	×			APM Vol 4, Section 1, Chapter 9 - Flaps
081.08.01.03	Leading edge devices and the reasons for use in take-off and landing	×	×			APM Vol 4, Section 1, Chapter 9 - Flaps
081.09.01.00	The boundary layer					APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.09.01.01	Different types:	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(a) laminar;	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
	(b) turbulent.	×	×			APM Vol 4, Section 1, Chapter 3 - Aerofoil Lift
081.10.00.00	Special circumstances					APM Vol 4, Section 1, Chapter 4 - Drag, Chapter 10 - Straight and Level, Chapter 14 - Stalling, APM Vol 4 Addendum
081.10.00.01	Ice and other contamination:	×	×			APM Vol 4, Section 1, Chapter 4 - Drag, Chapter 10 - Straight and Level, Chapter 14 - Stalling, APM Vol 4 Addendum, APM 2, Section 2, Chapter 22 - Hazardous Conditions
	(a) ice in stagnation point;	×	×			APM Vol 4 Addendum
	(b) ice on the surface (frost, snow and clear ice);	×	×			APM Vol 4, Section 1, Chapter 10 - Straight and Level
	(c) rain;	×	×			APM 2, Section 2, Chapter 22 - Hazardous Conditions
	(d) contamination of the leading edge;	×	×			APM Vol 4 Addendum, Section 1, Chapter 10 - Straight and Level, Section 1, Chapter 14 - Stalling
	(e) effects on stall;	×	×			APM Vol 4, Section 1, Chapter 14 - Stalling

080 PRINCIPLES OF FLIGHT (Page 4/5)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
	(f) effects on loss of controllability;	×	×			APM 2, Section 2, Chapter 22 - Hazardous Conditions
	(g) effects on control surface moment;	×	×			APM 2, Section 2, Chapter 22 - Hazardous Conditions
	(h) influence on high lift devices during takeoff, landing and low speeds.	×	×			APM Vol 4, Section 1, Chapter 10 - Straight and Level, APM Vol 2, Section 2, Chapter 22 - Hazardous Conditions
081.11.00.00	Stability					APM Vol 4, Section 1, Chapter 7 - Stability
081.11.01.00	Condition of equilibrium in steady horizontal flight					APM Vol 4, Section 1, Chapter 7 - Stability
081.11.01.01	Precondition for static stability	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
081.11.01.02	Equilibrium:	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
	(a) lift and weight;	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
	(b) drag and thrust.	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
081.12.00.00	Methods of achieving balance					APM Vol 4, Section 1, Chapter 7 - Stability, Chapter 8 - Control
081.12.01.01	Wing and empennage (tail and canard)	×	×			APM Vol 4, Section 1, Chapter 7 - Stability, Chapter 8 - Control
081.12.01.02	Control surfaces	×	×			APM Vol 4, Section 1, Chapter 7 - Stability, Chapter 8 - Control
081.12.01.03	Ballast or weight trim	×	×			APM Vol 4, Section 4, Chapter 33 - Mass and Balance
081.13.00.00	Static and dynamic longitudinal stability					APM Vol 4, Section 1, Chapter 7 - Stability
081.13.01.01	Basics and definitions:	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
	(a) static stability, positive, neutral and negative;	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
	(b) precondition for dynamic stability;	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
	(c) dynamic stability, positive, neutral and negative.	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
081.13.01.02	Location of centre of gravity:	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
	(a) aft limit and minimum stability margin;	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
	(b) forward position;	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
	(c) effects on static and dynamic stability.	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
081.14.00.00	Dynamic lateral or directional stability					APM Vol 4, Section 1, Chapter 7 - Stability
081.14.01.01	Spiral dive and corrective actions	×	×			APM Vol 4, Section 1, Chapter 7 - Stability, APM Vol 1, 15c Recovery from Unusual Attitudes
081.15.00.00	Control					APM Vol 4, Section 1, Chapter 8 - Control
081.15.01.00	General					APM Vol 4, Section 1, Chapter 8 - Control
081.15.01.00	Basics, the three planes and three axes	×	×			APM Vol 4, Section 1, Chapter 7 - Stability
081.15.01.02	Angle of attack change	×	×			APM Vol 4, Section 1, Chapter 8 - Control, Chapter 10 - Straight and Level
081.16.01.00	Pitch control					APM Vol 4, Section 1, Chapter 8 - Control
081.16.01.01	Elevator	×	×			APM Vol 4, Section 1, Chapter 8 - Control
081.16.01.02	Downwash effects	×	×			APM Vol 4 Addendum
081.16.01.03	Location of centre of gravity	×	×			APM Vol 4, Section 1, Chapter 8 - Control
081.17.01.00	Yaw control					APM Vol 4, Section 1, Chapter 8 - Control
081.17.01.01	Pedal or rudder	×	×			???
081.17.02.00	Roll control					APM Vol 4, Section 1, Chapter 8 - Control
081.17.02.01	Ailerons: function in different phases of flight	×	×			APM Vol 4, Section 1, Chapter 8 - Control
081.17.02.02	Adverse yaw	×	×			APM Vol 4, Section 1, Chapter 8 - Control
081.17.02.03	Means to avoid adverse yaw:	×	×			APM Vol 4, Section 1, Chapter 8 - Control
	(a) frise ailerons;	×	×			APM Vol 4, Section 1, Chapter 8 - Control
	(b) differential ailerons deflection.	×	×			APM Vol 4, Section 1, Chapter 8 - Control
081.18.01.00	Means to reduce control forces					APM Vol 4, Section 1, Chapter 8 - Control, Vol 4 Addendum
081.18.00.01	Aerodynamic balance:	×	×			APM Vol 4, Section 1, Chapter 8 - Control, Vol 4 Addendum
	(a) balance tab and anti-balance tab;	×	×			APM Vol 4, Section 1, Chapter 8 - Control
	(b) servo tab.	×	×			APM Vol 4, Section 1, Chapter 8 - Control
081.19.01.00	Mass balance					APM Vol 4, Section 1, Chapter 8 - Control
081.19.00.00	Reasons to balance: means	×	×			APM Vol 4, Section 1, Chapter 8 - Control

080 PRINCIPLES OF FLIGHT (Page 5/5)

		AEROPLANE		HELICOPTER		B.C. = BRIDGE COURSE
Syllabus Reference	Syllabus Details & Associated Learning Objective	PPL	B.C.	PPL	B.C.	
081.20.01.00	Trimming					APM Vol 4, Section 1, Chapter 8 - Control
081.20.01.01	Reasons to trim	×	×			APM Vol 4, Section 1, Chapter 8 - Control
081.20.01.02	Trim tabs	×	×			APM Vol 4, Section 1, Chapter 8 - Control
081.21.00.00	Limitations					APM Vol 4, Section 1, Chapter 9 - Flaps, Chapter 10 - Straight and Level, Chapter 11 - Climbing, Chapter 12 - Descending, Chapter 13 - Turning, Chapter 14 - Stalling, Section 4, Chapter 29 - Airframe Limitations
081.21.01.00	Operating limitations					APM Vol 4, Section 1, Chapter 9 - Flaps, Chapter 10 - Straight and Level, Chapter 11 - Climbing, Chapter 12 - Descending, Chapter 13 - Turning, Chapter 14 - Stalling, Section 4, Chapter 29 - Airframe Limitations
081.21.01.01	Flutter	×	×			APM Vol 4, Section 1, Chapter 8 - Control
081.21.01.02	V_{FE}	×	×			APM Vol 4, Section 1, Chapter 9 - Flaps
081.21.01.03	V_{NO} , V_{NE}	×	×			APM Vol 4, Section 4, Chapter 29 - Airframe Limitations
081.22.01.00	Manoeuvring envelope					APM Vol 4, Section 4, Chapter 29 - Airframe Limitations
081.22.01.01	Manoeuvring load diagram:	×	×			APM Vol 4, Section 4, Chapter 29 - Airframe Limitations
	(a) load factor;	×	×			APM Vol 4, Section 4, Chapter 29 - Airframe Limitations
	(b) accelerated stall speed;	×	×			APM Vol 4, Section 4, Chapter 29 - Airframe Limitations
	(c) V_A ;	×	×			APM Vol 4, Section 4, Chapter 29 - Airframe Limitations
	(d) manoeuvring limit load factor or certification category.	×	×			APM Vol 4, Section 4, Chapter 29 - Airframe Limitations
081.22.01.02	Contribution of mass	×	×			APM Vol 4, Section 4, Chapter 29 - Airframe Limitations
081.23.01.00	Gust envelope					APM Vol 4 Addendum
081.23.01.01	Gust load diagram	×	×			APM Vol 4 Addendum
081.23.01.02	Factors contributing to gust loads	×	×			APM Vol 4 Addendum
081.24.00.00	Propellers					APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
081.24.01.00	Conversion of engine torque to thrust					APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
081.24.01.01	Meaning of pitch	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
081.24.01.02	Blade twist	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
081.24.01.03	Effects of ice on propeller	×	×			APM 2, Section 2, Chapter 22 - Hazardous Conditions
081.25.01.00	Engine failure or engine stop					APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
081.25.01.01	Windmilling drag	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
081.26.01.00	Moments due to propeller operation					APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
081.26.01.01	Torque reaction	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
081.26.01.02	Asymmetric slipstream effect	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
081.26.01.03	Asymmetric blade effect	×	×			APM Vol 4, Section 1, Chapter 6 - Thrust from the Propeller
081.27.00.00	Flight mechanics					APM Vol 4, Section 1, Chapter 10 - Straight and Level, Chapter 11 - Climbing, Chapter 12 - Descending, Chapter 13 - Turning, Chapter 14 - Stalling
081.27.01.00	Forces acting on an aeroplane					APM Vol 4, Section 1, Chapter 10 - Straight and Level, Chapter 11 - Climbing, Chapter 12 - Descending, Chapter 13 - Turning, Chapter 14 - Stalling
081.27.01.01	Straight horizontal steady flight	×	×			APM Vol 4, Section 1, Chapter 10 - Straight and Level
081.27.01.02	Straight steady climb	×	×			APM Vol 4, Section 1, Chapter 11 - Climbing
081.27.01.03	Straight steady descent	×	×			APM Vol 4, Section 1, Chapter 12 - Descending
081.27.01.04	Straight steady glide	×	×			APM Vol 4, Section 1, Chapter 12 - Descending
081.27.01.05	Steady coordinated turn:	×	×			APM Vol 4, Section 1, Chapter 13 - Turning
	(a) bank angle;	×	×			APM Vol 4, Section 1, Chapter 13 - Turning
	(b) load factor;	×	×			APM Vol 4, Section 1, Chapter 13 - Turning
	(c) turn radius;	×	×			APM Vol 4, Section 1, Chapter 13 - Turning
	(d) rate one turn.	×	×			APM Vol 4, Section 1, Chapter 13 - Turning

090 COMMUNICATIONS (Page 1/1)

B.C. = BRIDGE COURSE

Syllabus Reference	Syllabus Details & Associated Learning Objective	AEROPLANE		HELICOPTER		
		PPL	B.C.	PPL	B.C.	
090.00.00.00	COMMUNICATIONS					APM Vol 7
090.01.00.00	VFR COMMUNICATIONS					APM Vol 7, Section 1, Chapter 1 - Cockpit Radios
090.01.01.00	Definitions					APM Vol 7, Section 1, Chapter 1 - Cockpit Radios
090.01.01.01	Meanings and significance of associated terms	×		×		APM Vol 7, Section 1, Chapter 2 - What to Say
090.01.01.02	ATS abbreviations	×		×		APM Vol 7, Section 1, Chapter 2 - What to Say
090.01.01.03	Q-code groups commonly used in RTF airground communications	×		×		APM Vol 7, Section 1, Chapter 3 - Aerodrome Operations
090.01.01.04	Categories of messages	×		×		APM Vol 7, Section 1, Chapter 2 - What to Say
090.02.01.00	General operating procedures					APM Vol 7, Section 1, Chapter 2 - What to Say
090.02.01.01	Transmission of letters	×		×		APM Vol 7, Section 1, Chapter 2 - What to Say
090.02.01.02	Transmission of numbers (including level information)	×		×		APM Vol 7, Section 1, Chapter 2 - What to Say
090.02.01.03	Transmission of time	×		×		APM Vol 7, Section 1, Chapter 2 - What to Say
090.02.01.04	Transmission technique	×		×		APM Vol 7, Section 1, Chapter 2 - What to Say
090.02.01.05	Standard words and phrases (relevant RTF phraseology included)	×		×		APM Vol 7, Section 1, Chapter 2 - What to Say
090.02.01.06	R/T call signs for aeronautical stations including use of abbreviated call signs	×		×		APM Vol 7, Section 1, Chapter 3 - Aerodrome Operations
090.02.01.07	R/T call signs for aircraft including use of abbreviated call signs	×		×		APM Vol 7, Section 1, Chapter 3 - Aerodrome Operations
090.02.01.08	Transfer of communication	×		×		APM Vol 7, Section 1, Chapter 3 - Aerodrome Operations
090.02.01.09	Test procedures including readability scale	×		×		APM Vol 7, Section 1, Chapter 3 - Aerodrome Operations
090.02.01.10	Read back and acknowledgement requirements	×		×		APM Vol 7, Section 1, Chapter 3 - Aerodrome Operations
090.03.01.00	Relevant weather information terms (VFR)					APM Vol 7, Section 1, Chapter 4 - Aerodrome Information
090.03.01.01	Aerodrome weather	×		×		APM Vol 7, Section 1, Chapter 4 - Aerodrome Information
090.03.01.02	Weather broadcast	×		×		APM Vol 7, Section 1, Chapter 4 - Aerodrome Information
090.04.00.00	Action required to be taken in case of communication failure	×		×		APM Vol 7, Section 3, Chapter 9 - Radio Failure Procedures
090.04.01.00	Distress and urgency procedures					APM Vol 7, Section 3, Chapter 8 - Emergency Procedures
090.04.01.01	Distress (definition, frequencies, watch of distress frequencies, distress signal and distress message)	×		×		APM Vol 7, Section 3, Chapter 8 - Emergency Procedures
090.04.01.02	Urgency (definition, frequencies, urgency signal and urgency message)	×		×		APM Vol 7, Section 3, Chapter 8 - Emergency Procedures
090.05.00.00	General principles of VHF propagation and allocation of frequencies	×		×		APM Vol 7, Section 5, Chapter 12 - Radio Fundamentals and APM Vol 7, Section 5, Chapter 13 - Radio Wave Propagation & Long-Range Communications

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Elstree Aerodrome | Hertfordshire | WD6 3AW
Tel: +44(0)20 8953 4870 | www.pooleys.com
Email: sales@pooleys.com