



Croatian Civil Aviation Agency

Zahtjev/Lista usklađenosti za odobrenje  
LAPL (H) tečaja osposobljavanja

*Application / Compliance Checklist  
for LAPL (H) course approval*

Upravne pristojbe  
70,00 kn

**UPUTE:**

Ovaj zahtjev/listu usklađenosti potrebno je ispuniti kod inicijalnog stjecanja odobrenja tečaja osposobljavanja u skladu sa zahtjevima Uredbe Komisije (EU) br. 1178/2011 i njezinih izmjena i dopuna.

Uz ovaj zahtjev/listu usklađenosti potrebno je dostaviti:

- 70,00 kn upravnih pristojbi;
- tečaj osposobljavanja (priručnik/program osposobljavanja) - u papirnatom i elektroničkom (CD/DVD) izdanju.

Upute za ispunjavanje:

U rubriku "*Organisation Reference*" potrebno je upisati referencu na program/priručnik (ime programa/priručnika i poglavlje) gdje je zahtjev opisan ili označiti N/A ukoliko nije primjenjivo.

Ispunjavanjem liste usklađenosti odgovorne osobe organizacije potvrđuju usklađenost programa/priručnika sa primjenjivim zahtjevima.

Rubrika "*Results*" (*Satisfactory-S, Unsatisfactory – U, Not applicable – N/A*) ispunjava se od strane CCAA inspektora. Rubrike S, U i N/A označavaju se sa znakom "X".

Uputa za buduće ishodište odobrenja izmjena tečaja osposobljavanja (programa/priručnika):

Nije potrebno ispunjavati ovaj zahtjev/listu usklađenosti, već je potrebno dostaviti zahtjev za odobrenje izmjena tečaja osposobljavanja (programa/priručnika) sa popisom izmjena i dopuna i 70,00 kn upravnih pristojbi, te izmjenom programa/priručnika u papirnatom i elektroničkom (CD/DVD) izdanju.



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TRAINING MANUAL					
Ref.: AMC&GM to Part-ORA; Subpart ATO; Section II; AMC1 ORA.ATO.230 (a)		Organization reference	RESULTS		
			S	U	N/A
<b>Part 1 – The training plan</b>					
(1) The aim of the course (ATP, CPL/IR, CPL, etc. as applicable)	A statement of what the student is expected to do as a result of the training, the level of performance, and the training constraints to be observed.				
(2) Pre-entry requirements	(i) Minimum age, educational requirements (including language), medical requirements; (ii) Any individual Member State requirements.				
(3) Credits for previous experience	To be obtained from the competent authority before training begins.				
(4) Training syllabi	As applicable, the flying syllabus (single-engine or multi-engine, as applicable), the flight simulation training syllabus and the theoretical knowledge training syllabus.				
(5) The time scale and scale, in weeks, for each syllabus	Arrangements of the course and the integration of syllabi time.				
(6) Training programme	(i) The general arrangements of daily and weekly programmes for flying, theoretical knowledge training and training in FSTDs, if applicable;				
	(ii) Bad weather constraints;				
	(iii) Programme constraints in terms of maximum student training times, (flying, theoretical knowledge, on FSTDs), for example per day, week or month;				
	(iv) Restrictions in respect of duty periods for students;				
	(v) Duration of dual and solo flights at various stages;				
	(vi) Maximum flying hours in any day or night;				



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		(vii) Maximum number of training flights in any day or night.		
(viii) Minimum rest period between duty periods.				
(7) Training records	(i) Rules for security of records and documents;			
	(ii) Attendance records;			
	(iii) The form of training records to be kept;			
	(iv) Persons responsible for checking records and students' log books;			
	(v) The nature and frequency of record checks;			
	(vi) Standardization of entries in training records;			
	(vii) Rules concerning log book entries.			
(8) Safety training	(i) Individual responsibilities;			
	(ii) Essential exercises;			
	(iii) Emergency drills (frequency);			
	(iv) Dual checks (frequency at various stages);			
	(v) Requirement before first solo day, night or navigation etc. if applicable			
(9) Tests and examinations	(i) Flying: (A) progress checks; (B) skill tests.			
	(ii) Theoretical Knowledge: (A) progress tests; (B) theoretical knowledge examinations.			
	(iii) Authorization for test;			
	(iv) Rules concerning refresher training before retest;			
	(v) Test reports and records;			



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Ref.: AMC&GM to Part-ORA; Subpart ATO; Section II; AMC1 ORA.ATO.230 (a)	Organization reference	S	U	N/A
		(vi) Procedures for examination paper preparation, type of question and assessment, standard required for 'pass';		
(vii) Procedure for question analysis and review and for raising replacement papers;				
(viii) Examinations resit procedures.				
(10) Training effectiveness	(i) Individual responsibilities;			
	(ii) General assessment;			
	(iii) Liaison between departments;			
	(iv) Identification of unsatisfactory progress (individual students);			
	(v) Actions to correct unsatisfactory progress;			
	(vi) Procedure for changing instructors;			
	(vii) Maximum number of instructor changes per student;			
	(viii) Internal feedback system for detecting training deficiencies;			
	(ix) Procedure for suspending a student from training;			
	(x) Discipline;			
	(xi) Reporting and documentation.			
(11) Standards and level of performance at various stages	(i) Individual responsibilities;			
	(ii) Standardisation;			
	(iii) Standardisation requirements and procedures;			
	(iv) Application of test criteria.			
<b>Part 2 - Briefing and Air Exercises</b>				
(1) Air Exercise	A detailed statement of the content specification of all the air exercises to be taught, arranged in the sequence to be flown with main and subtitles.			



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Ref.: AMC&GM to Part-ORA; Subpart ATO; Section II; AMC1 ORA.ATO.230 (a)			S	U	N/A
(2) Air exercise reference list	An abbreviated list of the above exercises giving only main and subtitles for quick reference, and preferably in flip-card form to facilitate daily use by instructors.				
(3) Course structure: phase of training	A statement of how the course will be divided into phases, indication of how the above air exercises will be divided between the phases and how they will be arranged to ensure that they are completed in the most suitable learning sequence and that essential (emergency) exercises are repeated at the correct frequency.				
	Also, the syllabus hours for each phase and for groups of exercises within each phase shall be stated and when progress tests are to be conducted, etc.				
(4) Course structure: integration of syllabi	The manner in which theoretical knowledge and flying training in an aircraft or an FSTD will be integrated so that as the flying training exercises are carried out students will be able to apply the knowledge gained from the associated theoretical knowledge instruction and flight training.				
(5) Student progress	The requirement for student progress and include a brief but specific statement of what a student is expected to be able to do and the standard of proficiency he/she must achieve before progressing from one phase of air exercise training to the next. Include minimum experience requirements in terms of hours, satisfactory exercise completion, etc. as necessary before significant exercises for example night flying.				
(6) Instructional methods	The ATO requirements, particularly in respect of pre- and post-flying briefing, adherence to syllabi and training specifications, authorization of solo flights, etc.				



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			S	U	N/A
(7) Progress tests	The instructions given to examining staff in respect of the conduct and documentation of all progress tests.				
(8) Glossary of terms	Definition of significant terms as necessary.				
(9) Appendices	(i) Progress test report forms;				
	(ii) Skill test report forms;				
	(iii) ATO certificates of experience, competence, etc. as required.				
<b>Part 3 – Flight training in an FSTD, if applicable</b>					
(1) Air Exercise	A detailed statement of the content specification of all the air exercises to be taught, arranged in the sequence to be flown with main and subtitles.				
(2) Air exercise reference list	An abbreviated list of the above exercises giving only main and subtitles for quick reference, and preferably in flip-card form to facilitate daily use by instructors.				
(3) Course structure: phase of training	A statement of how the course will be divided into phases, indication of how the above air exercises will be divided between the phases and how they will be arranged to ensure that they are completed in the most suitable learning sequence and that essential (emergency) exercises are repeated at the correct frequency. Also, the syllabus hours for each phase and for groups of exercises within each phase shall be stated and when progress tests are to be conducted, etc.				
(4) Course structure: integration of syllabi	The manner in which theoretical knowledge and flying training in an aircraft or an FSTD will be integrated so that as the flying training				



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	exercises are carried out students will be able to apply the knowledge gained from the associated theoretical knowledge instruction and flight training.				
(5) Student progress	The requirement for student progress and include a brief but specific statement of what a student is expected to be able to do and the standard of proficiency he/she must achieve before progressing from one phase of air exercise training to the next. Include minimum experience requirements in terms of hours, satisfactory exercise completion, etc. as necessary before significant exercises for example night flying.				
(6) Instructional methods	The ATO requirements, particularly in respect of pre- and post-flying briefing, adherence to syllabi and training specifications, authorization of solo flights, etc.				
(7) Progress tests	The instructions given to examining staff in respect of the conduct and documentation of all progress tests.				
(8) Glossary of terms	Definition of significant terms as necessary.				
(9) Appendices	(i) Progress test report forms;				
	(ii) Skill test report forms;				
	(iii) ATO certificates of experience, competence, etc. as required.				
<b>Part 4 - Theoretical knowledge instruction</b>					
(1) Structure of the theoretical knowledge course	A statement of the structure of the course, including the general sequence of the topics to be taught in each subject, the time allocated to each topic, the breakdown per subject and an example of a course schedule.				



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			S	U	N/A
	Distance learning courses should include instructions of the material to be studied for individual elements of the course.				
(2) Lesson Plans	A description of each lesson or group of lessons including teaching materials, training aids, progress test organisation and inter-connection of topics with other subjects.				
(3) Teaching materials	Specification of the training aids to be used (for example study materials, course manual references, exercises, self-study materials, demonstration equipment).				
(4) Student progress	The requirement for student progress, including a brief but specific statement of the standard that must be achieved and the mechanism for achieving this, before application for theoretical knowledge examinations.				
(5) Progress testing	The organization of progress testing in each subject, including topics covered, evaluation methods and documentation.				
(6) Review procedure	The procedure to be followed if the standard required at any stage of the course is not achieved, including an agreed action plan with remedial training if required.				

Subpart B, Section 1					
FCL.115 LAPL – training course		Organization reference	RESULTS		
			S	U	N/A
Applicants for an LAPL shall complete a training course within an ATO. The course shall include theoretical knowledge and flight instruction appropriate to the privileges given.					





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AMC & GM; Subpart B				
AMC1 FCL.115; FCL.120	Organization reference	RESULTS		
		S	U	N/A
<b>SYLLABUS OF THEORETICAL KNOWLEDGE FOR THE LAPL</b>				
(a) The training and examination should cover aspects related to non-technical skills in an integrated manner, taking into account the particular risks associated with the licence and the activity. The theoretical knowledge instruction provided by the ATO should include a certain element of formal classroom work but may also include other methods of delivery for example interactive video, slide or tape presentation, computer-based training and other media distance learning courses. The training organisation responsible for the training has to check if all the appropriate elements of the training course of theoretical knowledge instruction have been completed to a satisfactory standard before recommending the applicant for the examination.				
(b) The syllabi for the theoretical knowledge instruction and examination for the PPL(A) and PPL(H) in AMC1 FCL.210 and FCL.215 should be used for the LAPL(A) and the LAPL(H), respectively.				

PPL (A)				
AMC1 FCL.210; FCL.215	Organization reference	RESULTS		
		S	U	N/A
<b>SYLLABUS OF THEORETICAL KNOWLEDGE FOR THE PPL(A) AND PPL(H)</b>				
The following tables contain the syllabi for the courses of theoretical knowledge, as well as for the theoretical knowledge examinations for the PPL(A) and PPL(H). The training and examination should cover aspects related to non-technical skills in an integrated manner, taking into account the particular risks associated to the licence and the activity. An approved course shall comprise <b>at least 100 hours of theoretical knowledge instruction</b> . This theoretical knowledge instruction provided by the ATO should include a certain element of formal classroom work but may include also such facilities as interactive video, slide or tape presentation, computer-based training and other media distance learning courses. The training organisation responsible for the training has to check if all the appropriate elements of the training course of theoretical knowledge instruction have been completed to a satisfactory standard before				



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PPL (A)				
AMC1 FCL.210; FCL.215	Organization reference	RESULTS		
		S	U	N/A
recommending the applicant for the examination.				
<b>1. AIR LAW AND ATC PROCEDURES</b>				
<b>International law: conventions, agreements and organisations</b>				
The Convention on international civil aviation (Chicago) Doc. 7300/6				
- Part I Air Navigation: relevant parts of the following chapters: (a) general principles and application of the convention; (b) flight over territory of Contracting States; (c) nationality of aircraft; (d) measures to facilitate air navigation; (e) conditions to be fulfilled on aircraft; (f) international standards and recommended practices; (g) validity of endorsed certificates and licences; (h) notification of differences.				
- Part II The International Civil Aviation Organisation (ICAO): objectives and composition				
<b>Annex 8: Airworthiness of aircraft</b>				
- Foreword and definitions				
- Certificate of airworthiness				
<b>Annex 7: Aircraft nationality and registration marks</b>				
- Foreword and definitions				
- Common- and registration marks				
- Certificate of registration and aircraft nationality				
<b>Annex 1: Personnel licensing</b>				
- Definitions				
- Relevant parts of Annex 1 connected to Part-FCL and Part-Medical				
<b>Annex 2: Rules of the air</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
		Essential definitions, applicability of the rules of the air, general rules (except water operations), visual flight rules, signals and interception of civil aircraft		
<b>Procedures for air navigation: aircraft operations doc. 8168-ops/611, volume 1</b>				
<b>Altimeter setting procedures (including IACO doc. 7030 – regional supplementary procedures)</b> Basic requirements (except tables), procedures applicable to operators and pilots (except tables)				
<b>Secondary surveillance radar transponder operating procedures (including ICAO Doc. 7030 – regional supplementary procedures)</b>				
<ul style="list-style-type: none"> <li>– Operation of transponders</li> <li>– Phraseology</li> </ul>				
<b>Annex 11: Doc. 4444 air traffic management</b>				
<ul style="list-style-type: none"> <li>– Definitions</li> <li>– General provisions for air traffic services</li> <li>– Visual separation in the vicinity of aerodromes</li> <li>– Procedures for aerodrome control services</li> <li>– Radar services</li> <li>– Flight information service and alerting service</li> <li>– Phraseologies</li> <li>– Procedures related to emergencies, communication failure and contingencies</li> </ul>				
<b>Annex 15: Aeronautical information service</b>				
<ul style="list-style-type: none"> <li>– Introduction, essential definitions</li> <li>– AIP, NOTAM, AIRAC and AIC</li> </ul>				
<b>Annex 14, volume 1 and 2: Aerodromes</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Definitions</li> <li>– Aerodrome data: conditions of the movement area and related facilities</li> <li>– Visual aids for navigation:               <ul style="list-style-type: none"> <li>(a) indicators and signalling devices;</li> <li>(b) markings;</li> <li>(c) lights;</li> <li>(d) signs;</li> <li>(e) markers.</li> </ul> </li> <li>– Visual aids for denoting obstacles:               <ul style="list-style-type: none"> <li>(a) marking of objects;</li> <li>(b) lighting of objects.</li> </ul> </li> <li>– Visual aids for denoting restricted use of areas</li> <li>– Emergency and other services:               <ul style="list-style-type: none"> <li>(a) rescue and fire fighting;</li> <li>(b) apron management service.</li> </ul> </li> </ul>				
<b>Annex 12: Search and rescue</b>				
<ul style="list-style-type: none"> <li>– Essential definitions</li> <li>– Operating procedures:               <ul style="list-style-type: none"> <li>(a) procedures for PIC at the scene of an accident;</li> <li>(b) procedures for PIC intercepting a distress transmission;</li> <li>(c) search and rescue signals.</li> </ul> </li> <li>– Search and rescue signals:               <ul style="list-style-type: none"> <li>(a) signals with surface craft;</li> <li>(b) ground or air visual signal code;</li> <li>(c) air or ground signals.</li> </ul> </li> </ul>				
<b>Annex 17: Security</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
General: aims and objectives				
<b>Annex 13: Aircraft accident investigation</b>				
<ul style="list-style-type: none"> <li>– Essential definitions</li> <li>– Applicability</li> </ul>				
<b>National law</b>				
National law and differences to relevant ICAO Annexes and relevant EU regulations.				
<b>2. HUMAN PERFORMANCE</b>				
<b>HUMAN FACTORS: BASIC CONCEPTS</b>				
<b>Human factors in aviation</b>				
Becoming a competent pilot				
<b>Basic aviation physiology and health maintenance</b>				
<ul style="list-style-type: none"> <li>– The atmosphere:               <ul style="list-style-type: none"> <li>(a) composition;</li> <li>(b) gas laws.</li> </ul> </li> <li>– Respiratory and circulatory systems:               <ul style="list-style-type: none"> <li>(a) oxygen requirement of tissues;</li> <li>(b) functional anatomy;</li> <li>(c) main forms of hypoxia (hypoxic and anaemic):                   <ul style="list-style-type: none"> <li>(1) sources, effects and counter-measures of carbon monoxide;</li> <li>(2) counter measures and hypoxia;</li> <li>(3) symptoms of hypoxia.</li> </ul> </li> <li>(d) hyperventilation;</li> <li>(e) the effects of accelerations on the circulatory system;</li> <li>(f) hypertension and coronary heart disease.</li> </ul> </li> </ul>				
<b>Man and environment</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Central, peripheral and autonomic nervous systems</li> <li>– Vision:               <ul style="list-style-type: none"> <li>(a) functional anatomy;</li> <li>(b) visual field, foveal and peripheral vision;</li> <li>(c) binocular and monocular vision;</li> <li>(d) monocular vision cues;</li> <li>(e) night vision;</li> <li>(f) visual scanning and detection techniques and importance of 'look-out';</li> <li>(g) defective vision.</li> </ul> </li> <li>– Hearing:               <ul style="list-style-type: none"> <li>(a) descriptive and functional anatomy;</li> <li>(b) flight related hazards to hearing;</li> <li>(c) hearing loss.</li> </ul> </li> <li>– Equilibrium:               <ul style="list-style-type: none"> <li>(a) functional anatomy;</li> <li>(b) motion and acceleration;</li> <li>(c) motion sickness.</li> </ul> </li> <li>– Integration of sensory inputs:               <ul style="list-style-type: none"> <li>(a) spatial disorientation: forms, recognition and avoidance;</li> <li>(b) illusions: forms, recognition and avoidance:                   <ul style="list-style-type: none"> <li>(1) physical origin;</li> <li>(2) physiological origin;</li> <li>(3) psychological origin.</li> </ul> </li> <li>(c) approach and landing problems.</li> </ul> </li> </ul>				
<b>Health and hygiene</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Personal hygiene: personal fitness</li> <li>– Body rhythm and sleep:               <ul style="list-style-type: none"> <li>(a) rhythm disturbances;</li> <li>(b) symptoms, effects and management.</li> </ul> </li> <li>– Problem areas for pilots:               <ul style="list-style-type: none"> <li>(a) common minor ailments including cold, influenza and gastro-intestinal upset;</li> <li>(b) entrapped gases and barotrauma, (scuba diving);</li> <li>(c) obesity;</li> <li>(d) food hygiene;</li> <li>(e) infectious diseases;</li> <li>(f) nutrition;</li> <li>(g) various toxic gases and materials.</li> </ul> </li> <li>– Intoxication:               <ul style="list-style-type: none"> <li>(a) prescribed medication;</li> <li>(b) tobacco;</li> <li>(c) alcohol and drugs;</li> <li>(d) caffeine;</li> <li>(e) self-medication.</li> </ul> </li> </ul>				
<b>BASIC AVIATION PSYCHOLOGY</b>				
<b>Human information processing</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Attention and vigilance:               <ul style="list-style-type: none"> <li>(a) selectivity of attention;</li> <li>(b) divided attention.</li> </ul> </li> <li>– Perception:               <ul style="list-style-type: none"> <li>(A) perceptual illusions;</li> <li>(B) subjectivity of perception;</li> <li>(C) processes of perception.</li> </ul> </li> <li>– Memory:               <ul style="list-style-type: none"> <li>(a) sensory memory;</li> <li>(b) working or short term memory;</li> <li>(c) long term memory to include motor memory (skills).</li> </ul> </li> </ul>				
<b>Human error and reliability</b>				
<ul style="list-style-type: none"> <li>– Reliability of human behaviour</li> <li>– Error generation: social environment (group, organisation)</li> </ul>				
<b>Decision making</b>				
Decision-making concepts: <ul style="list-style-type: none"> <li>(a) structure (phases);</li> <li>(b) limits;</li> <li>(c) risk assessment;</li> <li>(d) practical application.</li> </ul>				
<b>Avoiding and managing errors: cockpit management</b>				
<ul style="list-style-type: none"> <li>– Safety awareness:               <ul style="list-style-type: none"> <li>(a) risk area awareness;</li> <li>(b) situational awareness.</li> </ul> </li> <li>– Communication: verbal and non-verbal communication</li> </ul>				
<b>Human behavior</b>				





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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Personality and attitudes:               <ul style="list-style-type: none"> <li>(a) development;</li> <li>(b) environmental influences.</li> </ul> </li> <li>– Identification of hazardous attitudes (error proneness)</li> </ul>				
<b>Human overload and underload</b>				
<ul style="list-style-type: none"> <li>– Arousal</li> <li>– Stress:               <ul style="list-style-type: none"> <li>(a) definition(s);</li> <li>(b) anxiety and stress;</li> <li>(c) effects of stress.</li> </ul> </li> <li>– Fatigue and stress management:               <ul style="list-style-type: none"> <li>(a) types, causes and symptoms of fatigue;</li> <li>(b) effects of fatigue;</li> <li>(c) coping strategies;</li> <li>(d) management techniques;</li> <li>(e) health and fitness programmes;</li> </ul> </li> </ul>				
<b>3. METEOROLOGY</b>				
<b>THE ATMOSPHERE</b>				
<b>Composition, extent and vertical division</b>				
<ul style="list-style-type: none"> <li>– Structure of the atmosphere</li> <li>– Troposphere</li> </ul>				
<b>Air temperature</b>				
<ul style="list-style-type: none"> <li>– Definition and units</li> <li>– Vertical distribution of temperature</li> <li>– Transfer of heat</li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Lapse rates, stability and instability</li> <li>– Development of inversions and types of inversions</li> <li>– Temperature near the earth's surface, surface effects, diurnal and seasonal variation, effect of clouds and effect of wind</li> </ul>				
<b>Atmospheric pressure</b>				
<ul style="list-style-type: none"> <li>– Barometric pressure and isobars</li> <li>– Pressure variation with height</li> <li>– Reduction of pressure to mean sea level</li> <li>– Relationship between surface pressure centres and pressure centres aloft</li> </ul>				
<b>Air density</b>				
<ul style="list-style-type: none"> <li>– Relationship between pressure, temperature and density</li> <li>– ISA</li> </ul>				
<b>ICAO STANDARD ATMOSPHERE</b>				
<b>Altimetry</b>				
Terminology and definitions Altimeter and altimeter settings Calculations Effect of accelerated airflow due to topography				
<b>WIND</b>				
<b>Definition and measurement of wind</b>				
Definition and measurement				
<b>Primary cause of wind</b>				
<ul style="list-style-type: none"> <li>– Primary cause of wind, pressure gradient, coriolis force and gradient wind</li> <li>– Variation of wind in the friction layer</li> <li>– Effects of convergence and divergence</li> </ul>				



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PPL (A)				
AMC1 FCL.210; FCL.215	Organization reference	RESULTS		
		S	U	N/A
<b>4. COMMUNICATIONS</b>				
<b>VFR COMMUNICATIONS</b>				
<b>Definitions</b>				
<ul style="list-style-type: none"> <li>– Meanings and significance of associated terms</li> <li>– ATS abbreviations</li> <li>– Q-code groups commonly used in RTF air-ground communications</li> <li>– Categories of messages</li> </ul>				
<b>General operating procedures</b>				
<ul style="list-style-type: none"> <li>– Transmission of letters</li> <li>– Transmission of numbers (including level information)</li> <li>– Transmission of time</li> <li>– Transmission technique</li> <li>– Standard words and phrases (relevant RTF phraseology included)</li> <li>– R/T call signs for aeronautical stations including use of abbreviated call signs</li> <li>– R/T call signs for aircraft including use of abbreviated call signs</li> <li>– Transfer of communication</li> <li>– Test procedures including readability scale</li> <li>– Read back and acknowledgement requirements</li> </ul>				
<b>Relevant weather information terms (VFR)</b>				
<ul style="list-style-type: none"> <li>– Aerodrome weather</li> <li>– Weather broadcast</li> </ul>				
<b>ACTION REQUIRED TO BE TAKEN IN CASE OF COMMUNICATION FAILURE</b>				
<b>Distress and urgency procedures</b>				
<ul style="list-style-type: none"> <li>– Distress (definition, frequencies, watch of distress frequencies, distress signal and distress message)</li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
– Urgency (definition, frequencies, urgency signal and urgency message)				
General principles of VHF propagation and allocation of frequencies				
<b>5. PRINCIPLES OF FLIGHT</b>				
<b>5.1. PRINCIPLES OF FLIGHT: AEROPLANE</b>				
<b>Subsonic aerodynamics</b>				
<b>Basics concepts, laws and definitions</b>				
<ul style="list-style-type: none"> <li>– Laws and definitions:               <ul style="list-style-type: none"> <li>(a) conversion of units;</li> <li>(b) Newton’s laws;</li> <li>(c) Bernoulli’s equation and venture;</li> <li>(d) static pressure, dynamic pressure and total pressure;</li> <li>(e) density;</li> <li>(f) IAS and TAS.</li> </ul> </li> <li>– Basics about airflow:               <ul style="list-style-type: none"> <li>(a) streamline;</li> <li>(b) two-dimensional airflow;</li> <li>(c) three-dimensional airflow.</li> </ul> </li> <li>– Aerodynamic forces on surfaces:               <ul style="list-style-type: none"> <li>(a) resulting airforce;</li> <li>(b) lift;</li> <li>(c) drag;</li> <li>(d) angle of attack.</li> </ul> </li> <li>– Shape of an aerofoil section:               <ul style="list-style-type: none"> <li>(a) thickness to chord ratio;</li> <li>(b) chord line;</li> </ul> </li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>(c) camber line;</li> <li>(d) camber;</li> <li>(e) angle of attack.</li> <li>– The wing shape:               <ul style="list-style-type: none"> <li>(a) aspect ratio;</li> <li>(b) root chord;</li> <li>(c) tip chord;</li> <li>(d) tapered wings;</li> <li>(e) wing planform.</li> </ul> </li> </ul>				
<b>The two-dimensional airflow about an aerofoil</b> <ul style="list-style-type: none"> <li>– Streamline pattern</li> <li>– Stagnation point</li> <li>– Pressure distribution</li> <li>– Centre of pressure</li> <li>– Influence of angle of attack</li> <li>– Flow separation at high angles of attack</li> <li>– The lift –<math>\alpha</math> graph</li> </ul>				
<b>The coefficients</b> <ul style="list-style-type: none"> <li>– The lift coefficient <math>C_l</math>: the lift formula</li> <li>– The drag coefficient <math>C_d</math>: the drag formula</li> </ul>				
<b>The three-dimensional airflow round a wing and a fuselage</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Streamline pattern:               <ul style="list-style-type: none"> <li>(a) span-wise flow and causes;</li> <li>(b) tip vortices and angle of attack;</li> <li>(c) upwash and downwash due to tip vortices;</li> <li>(d) wake turbulence behind an aeroplane (causes, distribution and duration of the phenomenon).</li> </ul> </li> <li>– Induced drag:               <ul style="list-style-type: none"> <li>(a) influence of tip vortices on the angle of attack;</li> <li>(b) the induced local <math>\alpha</math>;</li> <li>(c) influence of induced angle of attack on the direction of the lift vector;</li> <li>(d) induced drag and angle of attack.</li> </ul> </li> </ul>				
<b>Drag</b>				
<ul style="list-style-type: none"> <li>– The parasite drag:               <ul style="list-style-type: none"> <li>(a) pressure drag;</li> <li>(b) interference drag;</li> <li>(c) friction drag.</li> </ul> </li> <li>– The parasite drag and speed</li> <li>– The induced drag and speed</li> <li>– The total drag</li> </ul>				
<b>The ground effect</b>				
Effect on take off and landing characteristics of an aeroplane				
<b>The stall</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Flow separation at increasing angles of attack:               <ul style="list-style-type: none"> <li>(a) the boundary layer:                   <ul style="list-style-type: none"> <li>(1) laminar layer;</li> <li>(2) turbulent layer;</li> <li>(3) transition.</li> </ul> </li> <li>(b) separation point;</li> <li>(c) influence of angle of attack;</li> <li>(d) influence on:                   <ul style="list-style-type: none"> <li>(1) pressure distribution;</li> <li>(2) location of centre of pressure;</li> <li>(3) CL;</li> <li>(4) CD;</li> <li>(5) pitch moments.</li> </ul> </li> <li>(e) buffet;</li> <li>(f) use of controls.</li> </ul> </li> <li>– The stall speed:               <ul style="list-style-type: none"> <li>(a) in the lift formula;</li> <li>(b) 1g stall speed;</li> <li>(c) influence of:                   <ul style="list-style-type: none"> <li>(1) the centre of gravity;</li> <li>(2) power setting;</li> <li>(3) altitude (IAS);</li> <li>(4) wing loading;</li> <li>(5) load factor n:                       <ul style="list-style-type: none"> <li>(i) definition;</li> <li>(ii) turns;</li> </ul> </li> </ul> </li> </ul> </li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
(iii) forces. – The initial stall in span-wise direction: (a) influence of planform; (b) geometric twist (wash out); (c) use of ailerons. – Stall warning: (a) importance of stall warning; (b) speed margin; (c) buffet; (d) stall strip; (e) flapper switch; (f) recovery from stall. – Special phenomena of stall: (a) the power-on stall; (b) climbing and descending turns; (c) t-tailed aeroplane; (d) avoidance of spins: (1) spin development; (2) spin recognition; (3) spin recovery. (e) ice (in stagnation point and on surface): (1) absence of stall warning; (2) abnormal behaviour of the aircraft during stall.				
<b>CL augmentation</b>				





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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Trailing edge flaps and the reasons for use in take-off and landing:               <ul style="list-style-type: none"> <li>(a) influence on CL - <math>\alpha</math>-graph;</li> <li>(b) different types of flaps;</li> <li>(c) flap asymmetry;</li> <li>(d) influence on pitch movement.</li> </ul> </li> <li>– Leading edge devices and the reasons for use in take-off and landing</li> </ul>				
<b>The boundary layer</b>				
Different types: <ul style="list-style-type: none"> <li>(a) laminar;</li> <li>(b) turbulent.</li> </ul>				
<b>Special circumstances</b>				
Ice and other contamination: <ul style="list-style-type: none"> <li>(a) ice in stagnation point;</li> <li>(b) ice on the surface (frost, snow and clear ice);</li> <li>(c) rain;</li> <li>(d) contamination of the leading edge;</li> <li>(e) effects on stall;</li> <li>(f) effects on loss of controllability;</li> <li>(g) effects on control surface moment;</li> <li>(h) influence on high lift devices during take-off, landing and low speeds.</li> </ul>				
<b>STABILITY</b>				
<b>Condition of equilibrium in steady horizontal flight</b>				
<ul style="list-style-type: none"> <li>– Precondition for static stability</li> <li>– Equilibrium:               <ul style="list-style-type: none"> <li>(a) lift and weight;</li> <li>(b) drag and thrust.</li> </ul> </li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<b>Methods of achieving balance</b>				
<ul style="list-style-type: none"> <li>– Wing and empennage (tail and canard)</li> <li>– Control surfaces</li> <li>– Ballast or weight trim</li> </ul>				
<b>Static and dynamic longitudinal stability</b>				
<ul style="list-style-type: none"> <li>– Basics and definitions:               <ul style="list-style-type: none"> <li>(a) static stability, positive, neutral and negative;</li> <li>(b) precondition for dynamic stability;</li> <li>(c) dynamic stability, positive, neutral and negative.</li> </ul> </li> <li>– Location of centre of gravity:               <ul style="list-style-type: none"> <li>(a) aft limit and minimum stability margin;</li> <li>(b) forward position;</li> <li>(c) effects on static and dynamic stability.</li> </ul> </li> </ul>				
<b>Dynamic lateral or directional stability</b>				
Spiral dive and corrective actions				
<b>CONTROL</b>				
<b>General</b>				
<ul style="list-style-type: none"> <li>– Basics, the three planes and three axis</li> <li>– Angle of attack change</li> </ul>				
<b>Pitch control</b>				
<ul style="list-style-type: none"> <li>– Elevator</li> <li>– Downwash effects</li> <li>– Location of centre of gravity</li> </ul>				
<b>Yaw control</b>				
Pedal or rudder				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<b>Roll control</b>				
<ul style="list-style-type: none"> <li>– Ailerons: function in different phases of flight</li> <li>– Adverse yaw</li> <li>– Means to avoid adverse yaw:               <ul style="list-style-type: none"> <li>(a) frise ailerons;</li> <li>(b) differential ailerons deflection.</li> </ul> </li> </ul>				
<b>Means to reduce control forces</b>				
Aerodynamic balance: <ul style="list-style-type: none"> <li>(a) balance tab and anti-balance tab;</li> <li>(b) servo tab.</li> </ul>				
<b>Mass balance</b>				
Reasons to balance: means				
Trimming				
<ul style="list-style-type: none"> <li>– Reasons to trim</li> <li>– Trim tabs</li> </ul>				
<b>Limitations</b>				
<b>Operating limitations</b>				
<ul style="list-style-type: none"> <li>– Flutter</li> <li>– <math>V_{fe}</math></li> <li>– <math>V_{no}</math>, <math>V_{ne}</math></li> </ul>				
<b>Maneuvering envelope</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Maneuvering load diagram:               <ul style="list-style-type: none"> <li>(a) load factor;</li> <li>(b) accelerated stall speed;</li> <li>(c) <math>v_a</math>;</li> <li>(d) maneuvering limit load factor or certification category.</li> </ul> </li> <li>– Contribution of mass</li> </ul>				
<b>Gust envelope</b>				
<ul style="list-style-type: none"> <li>– Gust load diagram</li> <li>– Factors contributing to gust loads</li> </ul>				
<b>Propellers</b>				
<b>Conversion of engine torque to thrust</b>				
<ul style="list-style-type: none"> <li>– Meaning of pitch</li> <li>– Blade twist</li> <li>– Effects of ice on propeller</li> </ul>				
<b>Engine failure or engine stop</b>				
Windmilling drag				
<b>Moments due to propeller operation</b>				
<ul style="list-style-type: none"> <li>– Torque reaction</li> <li>– Asymmetric slipstream effect</li> <li>– Asymmetric blade effect</li> </ul>				
<b>Flight mechanics</b>				
<b>Forces acting on an aeroplane</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Straight horizontal steady flight</li> <li>– Straight steady climb</li> <li>– Straight steady descent</li> <li>– Straight steady glide</li> <li>– Steady coordinated turn:               <ul style="list-style-type: none"> <li>(a) bank angle;</li> <li>(b) load factor;</li> <li>(c) turn radius;</li> <li>(d) rate one turn.</li> </ul> </li> </ul>				
<b>6. OPERATIONAL PROCEDURES</b>				
<b>General</b>				
<b>Operation of aircraft: ICAO Annex 6, General requirements</b>				
<ul style="list-style-type: none"> <li>– Definitions</li> <li>– Applicability</li> </ul>				
<b>Special operational procedures and hazards (general aspects)</b>				
<b>Noise abatement</b>				
<ul style="list-style-type: none"> <li>– Noise abatement procedures</li> <li>– Influence of the flight procedure (departure, cruise and approach)</li> <li>– Runway incursion awareness (meaning of surface markings and signals)</li> </ul>				
<b>Fire or smoke</b>				
<ul style="list-style-type: none"> <li>– Carburettor fire</li> <li>– Engine fire</li> <li>– Fire in the cabin and cockpit, (choice of extinguishing agents according to fire classification and use of the extinguishers)</li> <li>– Smoke in the cockpit and (effects and action to be taken) and smoke in the cockpit and</li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
cabin (effects and actions taken)				
<b>Windshear and microburst</b>				
<ul style="list-style-type: none"> <li>– Effects and recognition during departure and approach</li> <li>– Actions to avoid and actions taken during encounter</li> </ul>				
<b>Wake turbulence</b>				
<ul style="list-style-type: none"> <li>– Cause</li> <li>– List of relevant parameters</li> <li>– Actions taken when crossing traffic, during take-off and landing</li> </ul>				
<b>Emergency and precautionary landings</b>				
<ul style="list-style-type: none"> <li>– Definition</li> <li>– Cause</li> <li>– Passenger information</li> <li>– Evacuation</li> <li>– Action after landing</li> </ul>				
<b>Contaminated runways</b>				
<ul style="list-style-type: none"> <li>– Kinds of contamination</li> <li>– Estimated surface friction and friction coefficient</li> </ul>				
<b>7. FLIGHT PERFORMANCE AND PLANNING</b>				
<b>7.1. MASS AND BALANCE: AEROPLANES OR HELICOPTERS</b>				
<b>Purpose of mass and balance considerations</b>				
<b>Mass limitations</b>				
<ul style="list-style-type: none"> <li>– Importance in regard to structural limitations</li> <li>– Importance in regard to performance limitations</li> </ul>				
<b>CG limitations</b>				
<ul style="list-style-type: none"> <li>– Importance in regard to stability and controllability</li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
– Importance in regard to performance				
<b>Loading</b>				
<b>Terminology</b>				
– Mass terms				
– Load terms (including fuel terms)				
<b>Mass limits</b>				
– Structural limitations				
– Performance limitations				
– Baggage compartment limitations				
<b>Mass calculations</b>				
– Maximum masses for take-off and landing				
– Use of standard masses for passengers, baggage and crew				
<b>Fundamentals of CG calculations</b>				
– Definition of centre of gravity				
– Conditions of equilibrium (balance of forces and balance of moments)				
– Basic calculations of CG				
<b>Mass and balance details of aircraft</b>				
<b>Contents of mass and balance documentation</b>				
– Datum and moment arm				
– CG position as distance from datum				
<b>Extraction of basic mass and balance data from aircraft documentation</b>				
– BEM				
– CG position or moment at BEM				
– Deviations from standard configuration				
<b>Determination of CG position</b>				



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AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<b>Methods</b>				
<ul style="list-style-type: none"> <li>– Arithmetic method</li> <li>– Graphic method</li> </ul>				
<b>Load and trim sheet</b>				
<ul style="list-style-type: none"> <li>– General considerations</li> <li>– Load sheet and CG envelope for light aeroplanes and for helicopters</li> </ul>				
<b>7.2. PERFORMANCE: AEROPLANES</b>				
<b>Introduction</b>				
<ul style="list-style-type: none"> <li>– Performance classes</li> <li>– Stages of flight</li> <li>– Effect of aeroplane mass, wind, altitude, runway slope and runway conditions</li> <li>– Gradients</li> </ul>				
<b>SE aeroplanes</b>				
Definitions of terms and speeds				
<b>Take-off and landing performance</b>				
Use of aeroplane flight manual data				
<b>Climb and cruise performance</b>				
<ul style="list-style-type: none"> <li>– Use of aeroplane flight data</li> <li>– Effect of density altitude and aeroplane mass</li> <li>– Endurance and the effects of the different recommended power or thrust settings</li> <li>– Still air range with various power or thrust settings</li> </ul>				
<b>7.3. FLIGHT PLANNING AND FLIGHT MONITORING</b>				
<b>Flight planning for VFR flights</b>				
<b>VFR navigation plan</b>				





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AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Routes, airfields, heights and altitudes from VFR charts</li> <li>– Courses and distances from VFR charts</li> <li>– Aerodrome charts and aerodrome directory</li> <li>– Communications and radio navigation planning data</li> <li>– Completion of navigation plan</li> </ul>				
<b>Fuel planning</b>				
<ul style="list-style-type: none"> <li>– General knowledge</li> </ul>				
<b>Pre-flight calculation of fuel required</b>				
<ul style="list-style-type: none"> <li>– Calculation of extra fuel</li> <li>– Completion of the fuel section of the navigation plan (fuel log) and calculation of total fuel</li> </ul>				
<b>Pre-flight preparation</b>				
<b>AIP and NOTAM briefing</b>				
<ul style="list-style-type: none"> <li>– Ground facilities and services</li> <li>– Departure, destination and alternate aerodromes</li> <li>– Airway routings and airspace structure</li> </ul>				
<b>Meteorological briefing</b>				
Extraction and analysis of relevant data from meteorological documents				
<b>ICAO flight plan (ATS flight plan)</b>				
<b>Individual flight plan</b>				
<ul style="list-style-type: none"> <li>– Format of flight plan</li> <li>– Completion of the flight plan</li> <li>– Submission of the flight plan</li> </ul>				
<b>Flight monitoring and in-flight re-planning</b>				
<b>Flight monitoring</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Monitoring of track and time</li> <li>– In-flight fuel management</li> <li>– In-flight re-planning in case of deviation from planned data</li> </ul>				
<b>8. AIRCRAFT GENERAL KNOWLEDGE</b>				
<b>8.1. AIRFRAME AND SYSTEMS, ELECTRICS, POWERPLANT AND EMERGENCY EQUIPMENT</b>				
<b>System design, loads, stresses, maintenance</b>				
Loads and combination loadings applied to an aircraft's structure				
<b>Airframe</b>				
<b>Wings, tail surfaces and control surfaces</b>				
<ul style="list-style-type: none"> <li>– Design and constructions</li> <li>– Structural components and materials</li> <li>– Stresses</li> <li>– Structural limitations</li> </ul>				
<b>Fuselage, doors, floor, wind-screen and windows</b>				
<ul style="list-style-type: none"> <li>– Design and constructions</li> <li>– Structural components and materials</li> <li>– Stresses</li> <li>– Structural limitations</li> </ul>				
<b>Hydraulics</b>				
<b>Hydromechanics: basic principles</b>				
<b>Hydraulic systems</b>				
<ul style="list-style-type: none"> <li>– Hydraulic fluids: types and characteristics, limitations</li> <li>– System components: design, operation, degraded modes of operation, indications and warnings</li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
		<b>Landing gear, wheels, tyres and brakes</b>		
<b>Landing gear</b>				
Types and materials				
<b>Nose wheel steering: design and operation</b>				
<b>Brakes</b>				
– Types and materials				
– System components: design, operation, indications and warnings				
<b>Wheels and tyres</b>				
Types and operational limitations				
<b>Flight controls</b>				
– Mechanical or powered				
– Control systems and mechanical				
– System components: design, operation, indications and warnings, degraded modes of operation and jamming				
<b>Secondary flight controls</b>				
System components: design, operation, degraded modes of operation, indications and warnings				
<b>Anti-icing systems</b>				
Types and operation (pitot and windshield)				
<b>Fuel system</b>				
<b>Piston engine</b>				
System components: design, operation, degraded modes of operation, indications and warnings				
<b>Electrics</b>				
<b>Electrics: general and definitions</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Direct current: voltage, current, resistance, conductivity, Ohm's law, power and work</li> <li>– Alternating current: voltage, current, amplitude, phase, frequency and resistance</li> <li>– Circuits: series and parallel</li> <li>– Magnetic field: effects in an electrical circuit</li> </ul>				
<b>Batteries</b>				
<ul style="list-style-type: none"> <li>– Types, characteristics and limitations</li> <li>– Battery chargers, characteristics and limitations</li> </ul>				
<b>Static electricity: general</b>				
<ul style="list-style-type: none"> <li>– Basic principles</li> <li>– Static dischargers</li> <li>– Protection against interference</li> <li>– Lightning effects</li> </ul>				
<b>Generation: production, distribution and use</b>				
<ul style="list-style-type: none"> <li>– DC generation: types, design, operation, degraded modes of operation, indications and warnings</li> <li>– AC generation: types, design, operation, degraded modes of operation, indications and warnings</li> </ul>				
<b>Electric components</b>				
Basic elements: basic principles of switches, circuit-breakers and relays				
<b>Distribution</b>				
General: (a) bus bar, common earth and priority; (b) AC and DC comparison.				
<b>Piston engines</b>				
<b>General</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Types of internal combustion engine: basic principles and definitions</li> <li>– Engine: design, operation, components and materials</li> </ul>				
<b>Fuel</b>				
<ul style="list-style-type: none"> <li>– Types, grades, characteristics and limitations</li> <li>– Alternate fuel: characteristics and limitations</li> </ul>				
<b>Carburettor or injection system</b>				
<ul style="list-style-type: none"> <li>– Carburettor: design, operation, degraded modes of operation, indications and warnings</li> <li>– Injection: design, operation, degraded modes of operation, indications and warnings</li> <li>– Icing</li> </ul>				
<b>Air cooling systems</b>				
Design, operation, degraded modes of operation, indications and warnings				
<b>Lubrication systems</b>				
<ul style="list-style-type: none"> <li>– Lubricants: types, characteristics and limitations</li> <li>– Design, operation, degraded modes of operation, indications and warnings</li> </ul>				
<b>Ignition circuits</b>				
Design, operation, degraded modes of operation				
<b>Mixture</b>				
Definition, characteristic mixtures, control instruments, associated control levers and indications				
<b>Propellers</b>				
<ul style="list-style-type: none"> <li>– Definitions and general:               <ul style="list-style-type: none"> <li>(a) aerodynamic parameters;</li> <li>(b) types;</li> <li>(c) operating modes.</li> </ul> </li> <li>– Constant speed propeller: design, operation and system components</li> <li>– Propeller handling: associated control levers, degraded modes of operation, indications</li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
and warnings				
<b>Performance and engine handling</b>				
<ul style="list-style-type: none"> <li>– Performance: influence of engine parameters, influence of atmospheric conditions, limitations and power augmentation systems</li> <li>– Engine handling: power and mixture settings during various flight phases and operational limitations</li> </ul>				
<b>8.2. INSTRUMENTATION</b>				
<b>Instrument and indication systems</b>				
<b>Pressure gauge</b>				
Different types, design, operation, characteristics and accuracy				
<b>Temperature sensing</b>				
Different types, design, operation, characteristics and accuracy				
<b>Fuel gauge</b>				
Different types, design, operation, characteristics and accuracy				
<b>Flow meter</b>				
Different types, design, operation, characteristics and accuracy				
<b>Position transmitter</b>				
Different types, design, operation, characteristics and accuracy				
<b>Tachometer</b>				
Design, operation, characteristics and accuracy				
<b>Measurement of aerodynamic parameters</b>				
<b>Pressure measurement</b>				
<ul style="list-style-type: none"> <li>– Static pressure, dynamic pressure, density and definitions</li> <li>– Design, operation, errors and accuracy</li> </ul>				
<b>Temperature measurement: aeroplane</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Design, operation, errors and accuracy</li> <li>– Displays</li> </ul>				
<b>Altimeter</b>				
<ul style="list-style-type: none"> <li>– Standard atmosphere</li> <li>– The different barometric references (QNH, QFE and 1013.25)</li> <li>– Height, indicated altitude, true altitude, pressure altitude and density altitude</li> <li>– Design, operation, errors and accuracy</li> <li>– Displays</li> </ul>				
<b>Vertical speed indicator</b>				
<ul style="list-style-type: none"> <li>– Design, operation, errors and accuracy</li> <li>– Displays</li> </ul>				
<b>Air speed indicator</b>				
<ul style="list-style-type: none"> <li>– The different speeds IAS, CAS, TAS: definition, usage and relationships</li> <li>– Design, operation, errors and accuracy</li> <li>– Displays</li> </ul>				
<b>Magnetism: direct reading compass</b>				
<b>Earth magnetic field</b>				
<b>Direct reading compass</b>				
<ul style="list-style-type: none"> <li>– Design, operation, data processing, accuracy and deviation</li> <li>– Turning and acceleration errors</li> </ul>				
<b>Gyroscopic instruments</b>				
<b>Gyroscope: basic principles</b>				
<ul style="list-style-type: none"> <li>– Definitions and design</li> <li>– Fundamental properties</li> <li>– Drifts</li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<b>Turn and bank indicator</b>				
Design, operation and errors				
<b>Attitude indicator</b>				
Design, operation, errors and accuracy				
<b>Directional gyroscope</b>				
Design, operation, errors and accuracy				
<b>Communication systems</b>				
<b>Transmission modes: VHF, HF and SATCOM</b>				
Principles, bandwidth, operational limitations and use				
<b>Voice communication</b>				
Definitions, general and applications				
<b>Alerting systems and proximity systems</b>				
<b>Flight warning systems</b>				
Design, operation, indications and alarms				
<b>Stall warning</b>				
Design, operation, indications and alarms				
<b>Integrated instruments: electronic displays</b>				
<b>Display units</b>				
Design, different technologies and limitations				
<b>9. NAVIGATION</b>				
<b>9.1. GENERAL NAVIGATION</b>				
<b>Basics of navigation</b>				
<b>The solar system</b>				
Seasonal and apparent movements of the sun				
<b>The earth</b>				





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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Great circle, small circle and rhumb line</li> <li>– Latitude and difference of latitude</li> <li>– Longitude and difference of longitude</li> <li>– Use of latitude and longitude co-ordinates to locate any specific position</li> </ul>				
<b>Time and time conversions</b> <ul style="list-style-type: none"> <li>– Apparent time</li> <li>– UTC</li> <li>– LMT</li> <li>– Standard times</li> <li>– Dateline</li> <li>– Definition of sunrise, sunset and civil twilight</li> </ul>				
<b>Directions</b> <ul style="list-style-type: none"> <li>– True north, magnetic north and compass north</li> <li>– Compass deviation</li> <li>– Magnetic poles, isogonals, relationship between true and magnetic</li> </ul>				
<b>Distance</b> <ul style="list-style-type: none"> <li>– Units of distance and height used in navigation: nautical miles, statute miles, kilometres, metres and ft</li> <li>– Conversion from one unit to another</li> <li>– Relationship between nautical miles and minutes of latitude and minutes of longitude</li> </ul>				
<b>Magnetism and compasses</b>				
<b>General principles</b> <ul style="list-style-type: none"> <li>– Terrestrial magnetism</li> <li>– Resolution of the earth's total magnetic force into vertical and horizontal components</li> <li>– Variation-annual change</li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<b>Aircraft magnetism</b>				
<ul style="list-style-type: none"> <li>– The resulting magnetic fields</li> <li>– Keeping magnetic materials clear of the compass</li> </ul>				
<b>Charts</b>				
<b>General properties of miscellaneous types of projections</b>				
<ul style="list-style-type: none"> <li>– Direct Mercator</li> <li>– Lambert conformal conic</li> </ul>				
<b>The representation of meridians, parallels, great circles and rhumb lines</b>				
<ul style="list-style-type: none"> <li>– Direct Mercator</li> <li>– Lambert conformal conic</li> </ul>				
<b>The use of current aeronautical charts</b>				
<ul style="list-style-type: none"> <li>– Plotting positions</li> <li>– Methods of indicating scale and relief (ICAO topographical chart)</li> <li>– Conventional signs</li> <li>– Measuring tracks and distances</li> <li>– Plotting bearings and distances</li> </ul>				
<b>DR navigation</b>				
<b>Basis of DR</b>				
<ul style="list-style-type: none"> <li>– Track</li> <li>– Heading (compass, magnetic and true)</li> <li>– Wind velocity</li> <li>– Air speed (IAS, CAS and TAS)</li> <li>– Groundspeed</li> <li>– ETA</li> <li>– Drift and wind correction angle</li> </ul>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
– DR position fix				
<b>Use of the navigational computer</b>				
– Speed				
– Time				
– Distance				
– Fuel consumption				
– Conversions				
– Air speed				
– Wind velocity				
– True altitude				
<b>The triangle of velocities</b>				
– Heading				
– Ground speed				
– Wind velocity				
– Track and drift angle				
<b>Measurement of DR elements</b>				
– Calculation of altitude				
– Determination of appropriate speed				
<b>In-flight navigation</b>				
<b>Use of visual observations and application to in-flight navigation</b>				
<b>Navigation in cruising flight, use of fixes to revise navigation data</b>				
– Ground speed revision				
– Off-track corrections				
– Calculation of wind speed and direction				
– ETA revisions				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
Flight log				
<b>9.2. RADIO NAVIGATION</b>				
Basic radio propagation theory				
<b>Antennas</b>				
Characteristics				
<b>Wave propagation</b>				
Propagation with the frequency bands				
<b>Radio aids</b>				
<b>Ground DF</b>				
<ul style="list-style-type: none"> <li>– Principles</li> <li>– Presentation and interpretation</li> <li>– Coverage</li> <li>– Range</li> <li>– Errors and accuracy</li> <li>– Factors affecting range and accuracy</li> </ul>				
<b>NDB/ADF</b>				
<ul style="list-style-type: none"> <li>– Principles</li> <li>– Presentation and interpretation</li> <li>– Coverage</li> <li>– Range</li> <li>– Errors and accuracy</li> <li>– Factors affecting range and accuracy</li> </ul>				
<b>VOR</b>				



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PPL (A)		RESULTS		
AMC1 FCL.210; FCL.215	Organization reference	S	U	N/A
<ul style="list-style-type: none"> <li>– Principles</li> <li>– Presentation and interpretation</li> <li>– Coverage</li> <li>– Range</li> <li>– Errors and accuracy</li> <li>– Factors affecting range and accuracy</li> </ul>				
<b>DME</b>				
<ul style="list-style-type: none"> <li>– Principles</li> <li>– Presentation and interpretation</li> <li>– Coverage</li> <li>– Range</li> <li>– Errors and accuracy</li> <li>– Factors affecting range and accuracy</li> </ul>				
<b>Radar</b>				
<b>Ground radar</b>				
<ul style="list-style-type: none"> <li>– Principles</li> <li>– Presentation and interpretation</li> <li>– Coverage</li> <li>– Range</li> <li>– Errors and accuracy</li> <li>– Factors affecting range and accuracy</li> </ul>				
<b>Secondary surveillance radar and transponder</b>				
<ul style="list-style-type: none"> <li>– Principles</li> <li>– Presentation and interpretation</li> <li>– Modes and codes</li> </ul>				



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PPL (A)				
AMC1 FCL.210; FCL.215	Organization reference	RESULTS		
		S	U	N/A
<b>GNSS</b>				
<b>GPS, GLONASS OR GALILEO</b>				
<ul style="list-style-type: none"> <li>– Principles</li> <li>– Operation</li> <li>– Errors and accuracy</li> <li>– Factors affecting accuracy</li> </ul>				

AMC1 FCL.110.H Experience requirements and crediting				
FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(a) Entry to training Before being accepted for training an applicant should be informed that the appropriate medical certificate must be obtained before solo flying is permitted.				
(b) Flight instruction (1) The LAPL(H) flight instruction syllabus should take into account the principles of threat and error management and also cover: (i) pre-flight operations, including mass and balance determination, helicopter inspection and servicing; (ii) aerodrome and traffic pattern operations, collision avoidance precautions and procedures; (iii) control of the helicopter by external visual reference; (iv) take-offs, landings, hovering, look-out turns and normal transitions from and to the hover; (v) emergency procedures, basic autorotations, simulated engine failure and ground resonance recovery if relevant to type; (vi) sideways and backwards flight and turns on the spot; (vii) incipient vortex ring recognition and recovery;				



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AMC1 FCL.110.H Experience requirements and crediting				
FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(viii) touchdown autorotations, simulated engine-off landings, practice forced landings. Simulated equipment malfunctions and emergency procedures relating to malfunctions of engines, controls, electrical and hydraulic circuits; (ix) steep turns; (x) transitions, quick stops, out of wind manoeuvres, sloping ground landings and take-offs; (xi) limited power and confined area operations including selection of and operations to and from unprepared sites; (xii) cross-country flying by using visual reference, dead reckoning and, where available and radio navigation aids; (xiii) operations to and from aerodromes; compliance with air traffic services procedures and communication procedures.				
(b) Flight instruction				
(2) Before allowing the applicant to undertake his/her first solo flight, the FI should ensure that the applicant can operate the required systems and equipment.				
(c) Syllabus of flight instruction				
(1) The numbering of exercises should be used primarily as an exercise reference list and as a broad instructional sequencing guide; therefore the demonstrations and practices need not necessarily be given in the order listed. The actual order and content will depend upon the following interrelated factors: (i) the applicant's progress and ability; (ii) the weather conditions affecting the flight; (iii) the flight time available; (iv) instructional technique considerations; (v) the local operating environment;				



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AMC1 FCL.110.H Experience requirements and crediting				
FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(vi) applicability of the exercises to the helicopter type.				
(2) Each of the exercises involves the need for the applicant to be aware of the needs of good airmanship and look-out, which should be emphasised at all times. (i) Exercise 1a: Familiarisation with the helicopter: (A) characteristics of the helicopter, external features; (B) cockpit layout; (C) systems; (D) checklists, procedures, controls.				
(ii) Exercise 1b: Emergency procedures: (A) action if fire on the ground and in the air; (B) engine, cabin and electrical system fire; (C) systems failures; (D) escape drills, location and use of emergency equipment and exits.				
(iii) Exercise 2: Preparation for and action after flight: (A) flight authorisation and helicopter acceptance; (B) serviceability documents; (C) equipment required, maps, etc.; (D) external checks; (E) internal checks; (F) seat, harness and flight controls adjustments; (G) starting and warm-up checks clutch engagement and starting rotors; (H) power checks; (I) running down system checks and switching off the engine; (J) parking, security and picketing; (K) completion of authorisation sheet and serviceability documents.				





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AMC1 FCL.110.H Experience requirements and crediting				
FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(iv) Exercise 3: Air experience: (A) to introduce the student to rotary wing flight; (B) flight exercise.				
(v) Exercise 4: Effects of controls: (A) function of flight controls, primary and secondary effect; (B) effect of air speed; (C) effect of power changes (torque); (D) effect of yaw (sideslip); (E) effect of disc loading (bank and flare); (F) effect on controls of selecting hydraulics on/off; (G) effect of control friction; (H) instruments; (I) use of carburettor heat or anti-icing control.				
(vi) Exercise 5: Power and attitude changes: (A) relationship between cyclic control position, disc attitude, fuselage attitude and air speed; (B) flapback; (C) power required diagram in relation to air speed; (D) power and air speed changes in level flight; (E) use of instruments for precision; (F) engine and air speed limitations.				



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AMC1 FCL.110.H Experience requirements and crediting				
FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(vii) Exercise 6a: Straight and level: (A) at normal cruising power, attaining and maintaining straight and level flight; (B) control in pitch, including use of control friction or trim; (C) maintaining direction and balance, (ball or yawstring use); (D) setting power for selected air speeds and speed changes; (E) use of instruments for precision.				
(viii) Exercise 6b: Climbing: (A) optimum climb speed, best angle or rate of climb from power required diagram; (B) initiation, maintaining the normal and maximum rate of climb, levelling off; (C) levelling off at selected altitudes or heights; (D) use of instruments for precision.				
(ix) Exercise 6c: Descending: (A) optimum descent speed and best angle or rate of descent from power required diagram; (B) initiation, maintaining and levelling off; (C) levelling off at selected altitudes or heights; (D) descent (including effect of power and air speed); (E) use of instruments for precision.				
(x) Exercise 6d: Turning: (A) initiation and maintaining medium level turns; (B) resuming straight flight; (C) altitude, bank and coordination; (D) climbing and descending turns and effect on rate of climb or descent; (E) turns onto selected headings, use of gyro heading indicator and compass; (F) use of instruments for precision.				



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AMC1 FCL.110.H Experience requirements and crediting				
FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(xi) Exercise 7: Basic autorotation: (A) safety checks, verbal warning and look-out; (B) entry, development and characteristics; (C) control of air speed and RRPM, rotor and engine limitations; (D) effect of AUM, IAS, disc loading, G-forces and density altitude (E) re-engagement and go-around procedures (throttle override or ERPM control); (F) vortex condition during recovery; (G) gentle and medium turns in autorotation; (H) demonstration of variable flare simulated engine off landing.				
(xii) Exercise 8a: Hovering: (A) demonstrate hover IGE, importance of wind effect and attitude, ground cushion, stability in the hover, effects of over controlling; (B) student holding cyclic stick only; (C) student handling collective lever (and throttle) only; (D) student handling collective lever, (throttle) and pedals; (E) student handling all controls; (F) demonstration of ground effect; (G) demonstration of wind effect; (H) demonstrate gentle forward running touchdown; (I) specific hazards, for example snow, dust and litter.				
(xiii) Exercise 8b: Hover taxiing and spot turns: (A) revise hovering; (B) precise ground speed and height control; (C) effect of wind direction on helicopter attitude and control margin; (D) control and coordination during spot turns; (E) carefully introduce gentle forward running touchdown.				



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AMC1 FCL.110.H Experience requirements and crediting				
FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(xiv) Exercise 8c: Hovering and taxiing emergencies: (A) revise hovering and gentle forward running touchdown, explain (demonstrate where applicable) effect of hydraulics failure in the hover; (B) demonstrate simulated engine failure in the hover and hover taxi. (C) demonstrate dangers of mishandling and over-pitching.				
(xv) Exercise 9: Take-off and landing (A) pre-take-off checks or drills; (B) look-out; (C) lifting to hover; (D) after take-off checks; (E) danger of horizontal movement near ground; (F) danger of mishandling and overpitching; (G) landing (without sideways or backwards movement); (H) after landing checks or drills; (I) take-off and landing crosswind and downwind.				
(xvi) Exercise 10: Transitions from hover to climb and approach to hover: (A) look-out; (B) revise take-off and landing; (C) ground effect, translational lift and its effects; (D) flapback and its effects; (E) effect of wind speed and direction during transitions from or to the hover; (F) the constant angle approach; (G) demonstration of variable flare simulated engine off landing.				
(xvii) Exercise 11a: Circuit, approach and landing: (A) revise transitions from hover to climb and approach to hover;				



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AMC1 FCL.110.H Experience requirements and crediting				
FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(B) circuit procedures, downwind and base leg; (C) approach and landing with power; (D) pre-landing checks; (E) effect of wind on approach and IGE hover (F) crosswind approach and landing; (G) go-around; (H) noise abatement procedures.				
(viii) Exercise 11b: Steep and limited power approaches and landings: (A) revise the constant angle approach; (B) the steep approach (explain danger of high sink rate and low air speed); (C) limited power approach (explain danger of high speed at touch down); (D) use of the ground effect; (E) variable flare simulated engine off landing.				
(xix) Exercise 11c: Emergency procedures: (A) abandoned take-off; (B) missed approach and go-around; (C) hydraulic off landing (if applicable); (D) tail rotor control or tail rotor drive failure (briefing only); (E) simulated emergencies in the circuit to include: (F) hydraulics failure; (G) simulated engine failure on take-off, crosswind, downwind and base leg; (H) governor failure.				
(xx) Exercise 12: First solo: (A) instructor's briefing, observation of flight and debriefing; (B) warn of change of attitude from reduced and laterally displaced weight; (C) warn of low tail, low skid or wheel during hover and landing;				



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FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(D) warn of dangers of loss of RRPM and overpitching; (E) pre-take-off checks; (F) into wind take-off; (G) procedures during and after take-off; (H) normal circuit, approaches and landings; (I) action if an emergency.				
(xxi) Exercise 13: Sideways and backwards hover manoeuvring: (A) manoeuvring sideways flight heading into wind; (B) manoeuvring backwards flight heading into wind; (C) combination of sideways and backwards manoeuvring; (D) manoeuvring sideways and backwards, heading out of wind; (E) stability and weather cocking; (F) recovery from backwards manoeuvring, (pitch nose down); (G) groundspeed limitations for sideways and backwards manoeuvring.				
(xxii) Exercise 14: Spot turns: (A) revise hovering into wind and downwind; (B) turn on spot through 360°: (a) around pilots position; (b) around tail rotor; (c) around helicopter geometric centre; (d) square and safe visibility clearing turn. (C) rotor RPM control, torque effect, cyclic limiting stops due to CG position and wind speed and direction.				



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FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(xxiii) Exercise 15: Hover OGE and vortex ring: (A) establishing hover OGE; (B) drift, height or power control; (C) demonstration of incipient stage of vortex ring, recognition and recovery (from a safe altitude); (D) loss of tail rotor effectiveness.				
(xxiv) Exercise 16: Simulated EOL: (A) the effect of weight, disc loading, density attitude and RRPM decay; (B) revise basic autorotation entry; (C) optimum use of cyclic and collective to control speed or RRPM; (D) variable flare simulated EOL; (E) demonstrate constant attitude simulated EOL; (F) demonstrate simulated EOL from hover or hover taxi; (G) demonstrate simulated EOL from transition and low level.				
(xxv) Exercise 17: Advanced autorotation: (A) over a selected point at various height and speed; (B) revise basic autorotation: note ground distance covered; (C) range autorotation; (D) low speed autorotation; (E) constant attitude autorotation (terminate at safe altitude); (F) 'S' turns; (G) turns through 180° and 360°; (H) effects on angles of descent, IAS, RRPM and effect of AUM.				



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FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(xxvi) Exercise 18: Practice forced landings: (A) procedure and choice of the forced landing area; (B) forced landing checks and crash action; (C) re-engagement and go-around procedures.				
(xxvii) Exercise 19: Steep turns: (A) steep (level) turns (30° bank); (B) maximum rate turns (45° bank if possible); (C) steep autorotative turns; (D) faults in the turn: balance, attitude, bank and coordination; (E) RRPM control and disc loading; (F) vibration and control feedback; (G) effect of wind at low level.				
(xxviii) Exercise 20: Transitions: (A) revise ground effect, translational lift and flapback; (B) maintaining constant height, (20–30 ft AGL); (C) transition from hover to minimum 50 knots IAS and back to hover; (D) demonstrate effect of wind.				
(xxix) Exercise 21: Quick stops: (A) use of power and controls; (B) effect of wind; (C) quick stops into wind; (D) quick stops from crosswind and downwind terminating into wind; (E) danger of vortex ring; (F) danger of high disc loading.				





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FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(xxx) Exercise 22a: Navigation: (A) Flight planning: (a) weather forecast and actuals; (b) map selection and preparation and use: (1) choice of route; (2) controlled airspace, danger and prohibited areas; (3) safety altitudes and noise abatement considerations. (c) calculations: (1) magnetic heading(s) and time(s) en-route; (2) fuel consumption; (3) mass and balance. (d) flight information: (1) NOTAMs, etc.; (2) radio frequencies; (3) selection of alternate landing sites. (e) helicopter documentation; (f) notification of the flight: (1) pre-flight administrative procedures; (2) flight plan form (where appropriate). (B) Departure: (a) organisation of cockpit workload; (b) departure procedures: (1) altimeter settings; (2) ATC liaison in regulated airspace; (3) setting heading procedure; (4) noting of ETAs.				



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FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(c) maintenance of height or altitude and heading; (d) revisions of ETA and heading: (1) 10° line, double track, track error and closing angle; (2) 1 in 60 rule; (3) amending an ETA. (e) log keeping; (f) use of radio; (g) minimum weather conditions for continuation of flight; (h) in-flight decisions; (i) transiting controlled or regulated airspace; (j) uncertainty of position procedure; (k) lost procedure. (C) Arrival and aerodrome joining procedure: (a) ATC liaison in regulated airspace; (b) altimeter setting; (c) entering the traffic pattern; (d) circuit procedures; (e) parking; (f) security of helicopter; (g) refuelling; (h) closing of flight plan, (if appropriate); (i) post-flight administrative procedures.				
(xxxi) Exercise 22b: Navigation problems at low heights and in reduced visibility: (A) actions before descending; (B) hazards (for example obstacles and other aircraft); (C) difficulties of map reading;				



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FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(D) effects of wind and turbulence; (E) avoidance of noise sensitive areas; (F) joining the circuit; (G) bad weather circuit and landing; (H) appropriate procedures and choice of landing area for precautionary landings.				
(xxxii) Exercise 22c: Radio navigation (basics): (A) Use of GNNS or VOR/NDB: (a) selection of waypoints; (b) to or from indications or orientation; (c) error messages. (B) Use of VHF/DF: (a) availability, AIP and frequencies; (b) R/T procedures and ATC liaison; (c) obtaining a QDM and homing. (C) Use of en-route or terminal radar: (a) availability and AIP; (b) procedures and ATC liaison; (c) pilot's responsibilities; (d) secondary surveillance radar: (1) transponders; (2) code selection; (3) interrogation and reply.				
(xxxiii) Exercise 23: Advanced take-off, landings and transitions: (A) landing and take-off out of wind (performance reduction); (B) ground effect, translational lift and directional stability variation when out of wind; (C) downwind transitions;				



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AMC1 FCL.110.H Experience requirements and crediting				
FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(D) vertical take-off over obstacles; (E) reconnaissance of landing site; (F) running landing; (G) zero speed landing; (H) crosswind and downwind landings; (I) steep approach; (J) go-around.				
(xxxiv) Exercise 24: Sloping ground: (A) limitations and assessing slope angle; (B) wind and slope relationship: blade and control stops; (C) effect of CG when on slope; (D) ground effect on slope and power required; (E) right skid up slope; (F) left skid up slope; (G) nose up slope; (H) avoidance of dynamic roll over, dangers soft ground and sideways movement on touchdown; (I) danger of striking main or tail rotor by harsh control movement near ground.				
(xxxv) Exercise 25: Limited power: (A) take-off power check; (B) vertical take-off over obstacles; (C) in-flight power check; (D) running landing; (E) zero speed landing; (F) approach to low hover; (G) approach to hover;				



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AMC1 FCL.110.H Experience requirements and crediting				
FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(H) approach to hover OGE; (I) steep approach; (J) go-around.				
(xxxvi) Exercise 26: Confined areas: (A) landing capability and performance assessment; (B) locating landing site and assessing wind speed and direction; (C) reconnaissance of landing site; (D) select markers; (E) select direction and type of approach; (F) circuit; (G) approach to committed point and go-around; (H) approach; (I) clearing turn; (J) landing; (K) power check and performance assessment in and OGE; (L) normal take-off to best angle of climb speed; (M) vertical take-off from hover.				
AMC2 FCL.110.H – Experience requirements and crediting				
CREDITING: PRE-ENTRY FLIGHT TEST				
The pre-entry flight test referred to in FCL.110.H(b) should cover the total content of the syllabus of flight instruction for the issuance of the LAPL(H), in accordance with AMC1 FCL.110.H.				
GM1 FCL.135.A; FCL.135.H				
DIFFERENCES AND FAMILIARISATION TRAINING				



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**AMC1 FCL.110.H Experience requirements and crediting**

FLIGHT INSTRUCTION FOR THE LAPL (H)	Organization reference	RESULTS		
		S	U	N/A
(a) Differences training requires the acquisition of additional knowledge and training on an appropriate training device or the aircraft.				
(b) Familiarisation training requires the acquisition of additional knowledge.				

Naziv organizacije:		
Datum podnošenja zahtjeva:		
	Ime i prezime:	Potpis:
Šef školstva (Head of Training):		
Voditelj nadgledanja usklađenosti (Compliance Monitoring Manager):		
Odgovorni rukovoditelj (Accountable Manager):		

Position	Name and Surname	Signature	Date
CCAA Inspector			
CCAA Inspector			

Note: CCAA Inspector shall provide detailed list of non-compliances, if found.