

## **Training Manual - PPL(A) at ATO.**

### **FCL.210 - Training Course**

This manual appendix describes a course of theoretical knowledge instruction performed at an ATO under the assumption that the flight training is commenced at the same ATO.

Students may transfer with to a different training organization when ever they wish, however this ATO will only recommend the applicant for the PPL(A) theoretical knowledge exam, after completion of this course.

This manual do not provide for transfer of theoretical PPL training from other training organizations or course types, except the ATO recognizes that a student may join the course and is credited for any training for which theoretical knowledge exams are already passed at a sitting with the competent authority. the student may join the theoretical training at the ATO, provided exam sittings remain to complete the required set of exams.

The course is not considered as a Distance Learning course, since all student activities are monitored via the learning management platform, no training hours are defined for the theoretical training for the PPL and that validation of student competencies are made at the ATO. Since the course is a leisure pilot course, intended for people that study as a hobby, the 15 hours per week demand, of AMC1 ORA.ATO.300 is not feasible. Other than this, the course complies with the requirements of AMC1 ORA.ATO.300

### **FCL.215 - Theoretical Knowledge Examination**

At the end of the theoretical training each student is offered an assessment of the level of theoretical knowledge of each of the required subject and will be recommended to take the exam with the competent authority on that background.

The assessment will be either sample problems presented to the student, or oral interview.

### **AMC1 - FCL.210;215 - Training Course and Theoretical Knowledge Examination**

The course is designed to satisfy the requirement defined in AMC1 FCL.210; FCL.215. All topics are represented in the course to a depth that is deemed adequate to pass the exam.

Non-technical skills, other than reading, writing, basic arithmetic, are not formally addressed, as they are not defined in aircrew regulation. The course is, though, through its content, level of abstraction and student involvement, designed to equip the applicant to take on flight training, after completion.

The satisfactory completion of all appropriate elements of the course will be recorded for each student.

### **AMC1 ORA.ATO.125 - Training Program**

It is advised that the student do not progress too far into the flight training program until the completion of the theoretical training, to avoid not having the academic foundation commensurate with the complexity of practical training. Student are however encourage to begin practical training, in order to form a reference frame for the theoretical topics.

The course provides ample opportunity for the student to express any problems encountered during the theoretical instruction, either via e-mail, phone or personal meetings at the ATO. The ATO is the single point of contact and will distribute further details needed to establish additional training sessions.

Should problems arise after completion of the theoretical training course, not further assistance can be guaranteed as part of the course, but any flight instructor should be able to cater for the topics addressed during pre-, or post flight briefing.

### **AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

#### **(1) - Structure of the theoretical knowledge course**

The course is structured so that students will learn about each topics listed in the syllabus by answering a question, developed to present the topic, or sub-parts of a topic, to the student.

For each question a reference is supplied, to a section in the training material, under which the required knowledge is listed for the student to learn.

The student is tasked with, in writing, summarizing an answer to the question put forward in one sentence.

The written feedback must be the words of the student. Copy-paste submission are identified by wording and rejected.

For each topic in a subject, a theoretical trainer provides feedback on each written summarization written by the student, to prevent derailment of the progress.

Each task is designed to be solved in 2-3 minutes. When the student have completed all the tasks in a subject, a session with a theoretical trainer is completed, during which the student have the opportunity to clear any problems and during which an assessment of the students proficiency is made, either by interview or by formative testing.

The concluding session cannot be completed unless the student have submitted written answers to all tasks and have received and acknowledged feedback.

### **AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

#### **(1) - Structure of the theoretical knowledge course**

##### **(i) - General sequence of topics**

There is an interdependence between the subjects of the course, so that some subjects are presented under the assumption that other subjects are completed.

The course is arranged in three blocks. Inside each block, the subjects have no interdependence. Inside each subject, the tasks have no interdependence.

#### **Navigation (24 quizzes, 295 questions)**

- Basics (5 quizzes /83 questions)
- Methods to compensate for limitations in maps and magnetism (5/45)
- Methods to calculate your flight (4/44)
- Radio Basics (2/13)
- Simple Radio Beacons (2/37)
- Advanced Radio Beacons (2/33)
- Radar (4/40)

#### **Aircraft General Knowledge (45 quizzes, 294 questions)**

- Airplane parts (10 quizzes /77 questions )
- Airplane system (8/33)

- Propulsion (10/106)
- System Instruments (7/23)
- Flight and Navigation Instruments (10/55)

### **Principles of Flight (36 quizzes, 221 questions)**

- Basics (3 quizzes /27 questions)
- 2D Airflow (4/16)
- 3D Airflow (4/15)
- Stall (8/83)
- Stability and Control (10/39)
- Limitations (3/16)
- Propeller (4/25)

### **Meteorology (30 quizzes, 333 questions)**

- Properties (8 quizzes /98 questions)
- Movement (2/17)
- Moisture (4/43)
- Dynamics (6/45)
- Dangers (4/40)
- Weather Assessment (6/90)

### **Flight Planning and Performance (11 quizzes, 184 questions)**

- Mass (5 quizzes /73 questions)
- Performance (4/64)
- Planning (2/47)

### **Human Performance (15 quizzes, 181 questions)**

- Oxygen (1 quiz /30 questions)
- The Nervous System (1/5)
- The Eyes (1/35)
- The Ear (1/17)
- Illusions (1/10)
- Senses (1/6)
- Hygiene (1/2)
- Sleep (1/8)
- Decompression Sickness (1/8)
- Health (1/5)
- Drugs (1/8)
- Information Processing (1/13)
- Decision Making (1/15)

Human Behavior (1/4)  
Stress Management (1/15)

**Operational Procedures (6 quizzes, 51 questions)**

Definitions (1 quiz / 15 questions)  
Noise Abatement (1/3)  
Fire (1/11)  
Wind Shear (1/11)  
Wake Turbulence (1/8)  
Off-Airport Landings (1/3)

**Air Law (34 quizzes, 616 questions)**

Organizations (4 quizzes /31 questions)  
Aircrew Regulations (7/42)  
Standardized European Rules of the Air (13/141)  
Airport Regulations (7/83)  
Operational Requirements (3/46)

**Communication**

Holders of NBEG wishing to obtain BEG, need only to complete modules 2 and 3.  
Applicants only wishing to pass the exam for PPL subject 4, need only to complete modules 1, 2 and 4.

**- Module 1, Normal Procedures (10 quizzes, 86 questions)**

The phonetic Alphabet (5)  
Numbers (21)  
Pressure and levels (1)  
Correction and Repetition (6)  
Callsigns (15)  
Transfer of communication (6)  
Clearance (13)  
Read Back (11)  
Radio Test (3)  
ATIS (5)

**- Module 2, Standard Words and Phrases (2 quizzes, 80 questions)**

Std. Words (74)  
Std. Phrases (6)

**- Module 3, Phraseology Exercises (1 quiz, 28 questions)**

Phraseology Exercises and Role Play (only for R/T certification) (10 quizzes /28 questions)

**- Module 4, Non Normal Procedures (8 quizzes, 92 questions)**

- Associated Terms (12)
- Abbreviations (19)
- Q-codes (8)
- Message Priority (4)
- Weather Broadcast (1)
- Communication Failure (8)
- Distress and Urgency (25)
- VHF Radio Waves (15)

**AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

**(1) - Structure of the theoretical knowledge course**

**(ii) - Time allocated to each topic**

Each topic is represented by one or more tasks. Each task is designed to be solved in 1-3 minutes. Topics have increasing number of tasks commensurate with the complexity, need for accuracy or strangeness.

**Block 1**

<b>Navigation</b>	296 tasks / 7 hrs.
<b>Aircraft General Knowledge</b>	284 tasks / 7 hrs.
<b>Principles of Flight</b>	221 tasks / 6 hrs

**Block 2**

<b>Meteorology</b>	333 tasks / 8 hrs
<b>Flight Planning and Performance</b>	184 tasks / 7 hrs
<b>Human Performance</b>	181 tasks / 6 hrs

**Block 3**

<b>Air Law</b>	616 tasks / 15
<b>Communication</b>	258 / 7 hrs
<b>Operational Procedures</b>	51 tasks / 2 hrs

**Total** **2397 tasks / 65 hrs**

*All subjects within block 1 must be completed before the student may commence block 2. All subjects within block 2 must be completed before the student may commence block 3.*

**AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

**(1) - Structure of the theoretical knowledge course**

**(iii) - Breakdown of each topic**

Each topic is presented according to FCL.215, Syllabus for the PPL theoretical knowledge. For details see relevant quiz.

**AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

**(1) - Structure of the theoretical knowledge course**

**(iv) - Example of schedule**

Schedule is compiled according to students needs. No particular schedule is made, since the student decides the tempo he or she wished to progress in.

Feed back on submitted tasks, will be given, at least, once every week.

The school recommends activity of at least 3-6 hours a week. Students request consultancy at the conclusion of each subjects and the ATO will make arrangement for the student to have an appointment with an instructor for q&a or final assessment , similarly to the booking of flying lessons.

**AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

**(1) - Structure of the theoretical knowledge course**

**(v) - Instruction of the material to be studied (DL only)**

Each question contains a unique reference to the material to be studied. The reference enables the student to access the requested knowledge within a few minutes of study.

**AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

**(2) - Lesson plans**

Each subject is one lesson with the content of the syllabus topics for that subject. The student may abort the lesson at any time and continue the lesson whenever he or she wishes and request instructor assistance as needed.

**AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

**(3) - Teaching Materials**

During the course the following material is used:

- Pilots Handbook of Aeronautical Knowledge, FAA
- Wikipedia articles
- Skybrary articles

A web-based Learning Management System is used to distribute and record student activity.

**AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

**(4) - Student Progress**

Students may progress at any tempo they wish. ATO recommends 6 hours study per week to have a coherent knowledge experience.

Student progress is monitored via the feedback given, during each subject being studied and student activity is registered in the Learning Management System.

No particular standard to be met before recommending for exam, is defined.

Student must demonstrate to the ATO that a proficient standard is attained during the course. This can either be through solving problems or through interview.

Such assessment shall be done in face-to-face realtime situation, to ensure that the student is not being represented by someone else, or that no unwarranted aids are used.

Because of the lack of transparency regarding the content and level of abstraction of the multiple choice exams, rather than demonstrating a passing grade in a test that may or may not be representative for the exam, the assessment of the student readiness is instead determined by looking at:

- Student performance during the course,
- Expedience of completion,
- Formative assessment of problems solved.
- Students own desire to take on the exam held by the competent authority.

### **AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

#### **(5) - Progress testing**

Student progress is monitored throughout the entire course, by the student written reply to the study questions and the frequency of activity. Replies are recorded in the learning management system.

At the completion of each subject, a final assessment is made as described above. The assessment is summarized in a brief written report describing:

- Details of what was assessed
- Assessment Method
- Whether the instructor recommends to the HoT that the student attends the exam

### **AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction**

#### **(6) - Review Procedure**

If student are not supplying correct answers to the tasks given, an instructor will point out the answers that are not correct. The instructor may give advice on the topic or suggest to the student to make an appointment for a personal learning session.

If a student is not demonstrating sufficient standard at the completion of each subject, a tailored continuation of the program is made in each instant.

### **ORA.ATO.300 Distance Learning Course, General**

This training is performed as a modular course and is thus eligible to be executed as distance learning.

#### **AMC1 ORA.ATO.300 General**

(a) This course maintains comprehensive records to ensure satisfactory academic progress and is monitoring the student work on a weekly basis.

(b)(1) According to the guidelines of the AMC, the student may study for 15 hours a week, however the ATO accepts a lower level of activity to cater for the need to tend a job or family. The student activity should however not be less than 6 hours per week.

(b)(2) Student may assess the work load required, by reading the number of questions and assuming that each question will take 2 minutes to solve. For a 6 hour study, the student should aim at answering at least 180 questions per week.

(b)(3) The recommended course structure and order of teaching/learning, is as stated under AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction, (1) - Structure of the theoretical knowledge course, (ii) - Time allocated to each topic.

(b)(4) Each subject, constitutes a lesson and in addition to monitoring student submissions weekly, each lesson is terminated by a final check in the respective subject, which also serves as a progress check. The frequency of progress checks follows each subject as described under course structure. Since no subject constitutes more then 15 hours of study, progress checks are made at more frequent intervals.

Since the entire course constitutes of testing questions, the student will constantly be submitted to tests, that may serve as self-assessment tests. The self assessment is bolstered by the instructor feedback given to each answered question.

(b)(5) Students may have access to an instructor according to description under: AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction, (1) - Structure of the theoretical knowledge course, (iv) - Example of schedule. Additionally the student may contact an instructor or other students via the Learning Management System.

(b)(6) As described under AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction, (4) - Student Progress.

(b)(7) Instructors are monitoring student progress via the Learning Management System.

The following is registered in the LMS:

- All student activity on the platform.

The following is monitored by the instructors via the LMS:

- All student submission of quizzes, to be review.
- Student submission of written final assessments.

(c) Assessments of students are conducted according to AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction, (5) - Progress testing.

### **ORA.ATO.305 Classroom Instruction**

(a) An element of class room instruction is included in the course, as described under AMC1 ORA.ATO.230(a) - Training Manual, d) Theoretical knowledge instruction, (4) - Student Progress.

(b) No specific requirements regarding course duration is defined in aircrew regulation, therefore no specific duration of actual class room instruction is specified, observe though point (a) above.



(c) The ATO have suitable class room accommodations according to ATO approval conditions.

**AMC1 ORA.ATO.305(b) Classroom instruction**

The elements of class room instructions given as described under ORA.ATO.305 may be given via video conferencing, where appropriate.

**ORA.ATO.310 Instructors**

The ATO will ensure that instructors involved with distance learning are familiar with navigating the Learning Management System to fulfil their duty.