



Course Level

IFP Advanced

PANS-OPS Recurrent activities

Duration	at student's discretion	
Tuition Fee	CHF 2500 per participant	
Instructors	Beat Zimmermann (IFP)	
Certificate	ANI Certificate	

Questions at a glance	Answer
ICAO recognised?	No, there is no such thing as an ICAO recognition for training. ANI is a State-approved training provider and complies with all ICAO training regulations.
Pre-requisites?	Yes. Please see below for details.
Does ANI provide accommodation?	No. Please check the hotel list provided in the location documentation.
Daily schedule?	9.00 - 16.00
Weekly schedule	Monday Morning to Friday Midday
Venue?	Please check the information in the course calendar.
Mobile Phones?	Absolutely and strictly forbidden in the class!

1. ANI Procedure Design Training Program and Concept

All ANI Procedure Design/PANS-OPS courses cope with ICAO document 9906 "Quality Assurance Manual For Flight Procedure Design", vol. II "Flight Procedure Designer Training".

2. ANI Advanced Level training considerations

As most changes to PANS-OPS currently take place in criteria that are considered „advanced level flight procedure design“, ANI will ensure that candidates have the appropriate basic level. Students not known to ANI will have to pass the English test as well as the pre-requisite test plus a practical procedure design test in order to evaluate the skills and knowledge required to successfully pass a recurrent/refresher course.

3. Pre-requisites

Pre-requisite skills, knowledge and attitude as required by ICAO are listed below. They are evaluated via a 120-minute test in our online test center. The required English language test takes 50 minutes. Additionally to join a refresher or advanced level training program, a practical procedure design exercise must be completed. For students, whose level of competency is known to ANI the testing can be waived as decided by ANI.

PRE-REQUISITE SKAS

(extract from ICAO do. 9906, vol. II)

3.3.1 Mathematics

3.3.1.1 Algebra

Students should be competent in Algebra to at least the level of resolving equations with 2 unknowns and handling operations of the 3rd level (Exponentiation, Radical, Logarithms, Angular functions). This requirement will assure the understanding of formulas given in the relative criteria documents as well as the ability to follow rationales, on which certain criteria are based.

3.3.1.2 Geometry

Students should be familiar with the classical Euclidian Geometry (Plane Geometry, Solid Geometry) as well as Thales and Pythagoras constructions.

3.3.1.3 Trigonometry

Students should be competent in all Trigonometry Functions such as Sine, Cosine, Tangent, Cotangent, Secant and Cosecant. Furthermore they should be familiar with Trigonometry Theorems such as the Theorem of Sines and the Theorem of Cosines.

3.3.1.4 Probability and Statistics

Students should have basic knowledge of Statistical and Probability Mathematics, particularly an understanding of the Gaussian (Normal) distribution.

3.3.2 Aviation or Aviation-related pre-requisites

The job profile of an Instrument Flight Procedure Designer requires knowledge in various fields of activity in aviation. Training providers are encouraged to offer ab-initio training and that the following prerequisites are met by the student so as to ensure that the length of training can be optimized.

3.3.2.1 Air Traffic Management

Students should demonstrate fundamental knowledge of Air Traffic Management (ATM) as in ICAO doc. 4444 (PANS-ATM), as well as understanding the broad concept of ATM which consists of ATS including ATC (Air Traffic Control), ATFM (Air Traffic Flow Management) and ASM (Airspace Management), other fields related to ATM such as route spacing, ATC separation, aviation weather, etc.

3.3.2.2 Navigation, Navigation Systems and Geography

Students should demonstrate knowledge of Navigation, Navigation Systems and Geography to the level of any pilot's license with Instrument Rating (IR). It is however not a requirement to hold such a license.

3.3.2.3 Aircraft Operations

Students should demonstrate knowledge of the basics of flying and aerodynamics. It is however not a requirement to hold a pilot's license.

3.3.2.4 Aircraft Performance

Students should demonstrate knowledge of Aircraft Performance to the level of any pilot's license with Instrument Rating (IR). It is however not a requirement to hold such a license.

3.3.2.5 Aeronautical Information Services

Students should demonstrate fundamental knowledge of Annex 15 (Aeronautical Information Services).

3.3.2.6 Aerodrome safeguarding

Students must be familiar with the basic requirements for aerodrome safeguarding (Annex 14 Obstacle

limitation surfaces, Aerodrome reference codes).

3.3.2.7 Geodesy

Geodesy, also called geodetics, is the scientific discipline that deals with the measurement and representation of the earth, its gravitational field and geodynamic phenomena (polar motion, earth tides, and crustal motion) in three-dimensional time varying space. Geodesy is primarily concerned with positioning and the gravity field and geometrical aspects of their temporal variations, although it can also include the study of the Earth's magnetic field.

Students should demonstrate fundamental knowledge in the following areas of Geodesy:

- Geoid and reference ellipsoid
- Coordinate systems in space
- Coordinate systems in the plane
- Heights
- Geodetic Datums and Datum conversion • Point positioning
- Units and measures on the ellipsoid
- Geodetic Principal Problem
- Geodetic Inverse Problem

3.3.3 Language

In order to progress through the competency-based training outlined above, trainees need to demonstrate their ability to achieve terminal objective related to the competency elements. As training will be delivered within a certain timeframe, it is important that trainees learn the material within the time allocated. For this reason, proficiency in the language in which training will be delivered (instruction and training materials) is essential.

For courses in English, it is suggested that training providers require a score of 550 in the written TOEFL (Test of English as a Foreign Language), 213 in the TOEFL Computer Based Test, 79 in the TOEFL Internet Based Test and 750 in TOEIC (Test of English for International Communication) for students whose native language is not English. Alternatively, a score of 6.5 in the IELTS Academic Module (International English Language Testing System) can be accepted. Students having studied at an English speaking institution for one year or longer can be exempted from providing a TOEFL or IELTS score.

(end of extract)

Note: For ANI courses, an ICAO language proficiency Level 5 is also accepted. Level 4 is not sufficient to understand the lectures.

5. Recurrent/refresher

Recurrent training means to learn new additions and changes in the procedure design criteria. Refresher training means „same again“. We do a bit of both. Whenever we cover a topic for recurrency we also cover some of the fundamentals associated with the required competencies.

We cannot provide a generic rundown of the recurrent/refresher. Typically we cover the last three published amendments plus the one that is in the pipeline for publication. For the 2023 courses this would be Amndments 9, 8 and 7, plus the upcoming amendment 10, foreseen to become effective in November 2024.

6. Testing and Grading

ANI has a testing and grading system in order to provide the student a continuous feedback on his learning progress. All the theory tests can be taken in the ANI Online Test Center. Some tests are purely for the purpose of monitoring progress, some will be part of the final grading along with the subjective rating of the performance during the lectures as well as the practical design exercises.

The following grades exist for the individual tests as well as for the final certification:

Grade	Required Result
Summa Cum Laude	100% correct in theory questions. Save, correct and flyable result in practical exercises at the first attempt.
Magna Cum Laude	95-99% correct in theory questions. Save, correct and flyable result in practical exercises at the first attempt.
Cum Laude	90-94% correct in theory questions. Save, correct and flyable result in practical exercises at the second attempt.
Pass	80-89% correct in theory questions. Save, correct and flyable result in practical exercises at the third attempt.
Fail	20-79% correct in theory questions. Still incorrect results in practical exercises at the third attempt.
Wrong job	0-19% correct in theory questions. Still incorrect results in practical exercises at the third attempt.

Should a student receive a „fail“ grade in a course, he is entitled to repeat all Mastery Tests after 6 months. The fee for such repetition is CHF 300.