

Continuing education course
in Advanced Aviation Meteorology
(AdAvMet)



Course description

In recent decades, a widening gap has developed between traditional aviation meteorology of the kind examined in pilot's licence tests and the range of information and insights that are available today. The AdAvMet continuing education course is designed to help its participants fill that gap in their knowledge. The weather forecast models used today, for example, provide more detailed information on relevant weather events, such as turbulence, than can be presented on the standard significant weather charts. Furthermore, recently discovered hazards, such as high altitude ice crystal icing, are not covered in basic pilot training and have thus not yet been included in standard training manuals.

The purpose of the course is to refresh participants' existing knowledge where this has maintained its validity (on storms, for example) and to complement it with new insights. AdAvMet thus serves both to refresh and extend its participants' knowledge.

Target audience

Although the AdAvMet continuing education course is designed primarily for commercial pilots, it is also well suited to flight dispatch staff. Provided they have the necessary basic knowledge, anyone interested in aviation meteorology and weather in general will also find the course a welcome opportunity to broaden their horizons.

Objectives and content

Clear, concrete examples will be used to remind participants of the basics. They will then familiarise themselves with the architecture and limitations of current forecasting models, before focusing on the following topics:

- Storms, particularly in the Inter-Tropical Convergence Zone (ITCZ)
- High altitude ice crystal icing (HAIC)
- Particularly active zones in and below jet streams
- Clear air turbulence (CAT) and wind shear
- Lee waves (mountain waves)
- Temperature anomalies in the tropopause zone

The following practical questions, put to us by previous course participants, will also be discussed:

- What hazards can pilots and flight dispatchers now see with the aid of the more modern planning tools?
- What can dispatchers and mission support see that is invisible to the crew, and how can this be used to help crews?
- What can the crew do to help themselves (using connectivity, special EFB apps and contact with other aircraft)?

These sessions will also present a range of useful sources of online information.

Course structure

Following a two-day pilot course for participants from two airlines in April 2016, the decision was made to offer a compact, one-day course. This was based on the assumption that participants will be highly motivated and have substantial prior knowledge. Post-course follow-up coverage will also be offered, allowing participants to submit questions in writing and to attend consultation sessions, so that issues arising after the course can also be discussed.

Methodology

Given the compact course structure, most of the teaching input is in the form of lectures and written texts. However, time will also be available for discussion of the topics thus presented. Furthermore, the course will provide participants with the knowledge they need to pursue further self-directed study and to avail themselves of useful source material.

Timetable

This is a one-day course with a total of eight lessons between 8.00 am and 5.15 pm. Appropriate breaks are scheduled during the day.

Prerequisites

Participants should be familiar with the fundamental meteorological principles set out in the ICAO 050 (Meteorology) syllabus. They should also have sufficient prior professional experience to identify relevant aspects thereof and to study them in greater detail.

Course language

The course is taught in German. Some documentation is in English. If demand is sufficient, future individual courses may be held entirely in English.

Course director and lecturer

Professor Bruno Neiningger
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Course venue

ZHAW School of Engineering
Technikumstrasse 9
8400 Winterthur

Certification

Participants completing the Advanced Aviation Meteorology (AdAvMet) continuing education course receive a certificate of attendance.

Course fee

CHF 450 (this fee is reduced thanks to a subsidy from the Federal Office of Civil Aviation)

Enrolment

Participants can enrol directly at
www.zhaw.ch/en/engineering/continuing-education

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