



SUMMARY

This course covers Global Navigation Satellite System (GNSS), including:

- Components
- Operating principles
- Normal operations, including:
 - Satellite signals
 - RAIM
- GNSS Approaches, including:
 - Overlay approaches
 - RNAV GNSS
 - RNP APCH/AR operations
- Aircraft requirements
- Operational requirements
- Flight crew requirements
- Abnormal operational procedures

The course is available in versions for Boeing and Airbus aircraft.

TARGET POPULATION

The Pelesys Global Navigation Satellite System (GNSS) course is designed for Professional Pilots requiring initial or recurrent training.

REGULATORY COMPLIANCE

- ICAO / EASA / FAA / Transport Canada
- Maintain compliance with IOSA standards

Versions Available:
Jeppesen
Lido

Course Length:
1 hr 20 min

LESSON 01: Introduction

In this lesson we cover:

- Global Navigation Satellite Systems (GNSS)
- Components
- Operating principles

LESSON 02: Navigation

In this lesson, we cover:

- Benefits
- User requirements
- Operation
- RAIM
- Abnormal situations

LESSON 03: Approaches

In this lesson, we cover:

- Approach structure
- GNSS overlay approaches
- RNAV GPS approaches
- RNP AR approaches
- Abnormal situations

LEARNING TIME AND RUN TIME

This course has a learning time of: (run time plus additional time per page to account for understanding learning points)

- 1 hr 20 min (Jeppesen / Lido)

This course has a run time of: (the base time for each page to be completed)

- 1hr 07 min (Jeppesen / Lido)

Exam Generation System (EGS) Banked Questions

The total amount of banked questions for this course is:

| Lesson Title | Standard Questions |
|---------------|--------------------|
| Introduction | 9 |
| Navigation | 7 |
| Approaches | 5 |
| Human Factors | 5 |
| | 26 |

REFERENCE MATERIAL

The Pelesys GNSS course provides information for pilots and dispatchers regarding the structure, operation, and use of Global Navigation Satellite System (GNSS) in airline operations. Supplementary information regarding operational use of GNSS can be found in the Pelesys High Altitude Operations, PBN, NAT Operations, and Low Visibility Operations Courses. This course is based on information contained in:

EASA:

- AMC 20-26 Airworthiness Approval and Operational Criteria for RNP Authorization Required (RNP AR) Operations
- AMC 20-27 Airworthiness Approval and Operational Criteria for RNP APPROACH (RNP APCH) Operations Including APV BARO-VNAV Operations
- AMC 20-28 Airworthiness Approval and Operational Criteria related to Area Navigation for Global Navigation Satellite System (GNSS) approach operation to Localizer Performance with Vertical guidance minima using Satellite Based Augmentation System (SBAS)

FAA:

- Airman Information Manual
- FAR 91.175
- N 8900.218 - Alternate Airport IFR Weather Minimums
- Pilot's Handbook of Aeronautical Knowledge
- AC20-138C - Airworthiness Approval of Positioning and Navigation Systems
- 90-100A - U.S. Terminal and Enroute Area Navigation (RNAV) Operations
- 91-003 - AIRCRAFT AND OPERATORS APPROVAL FOR RNAV 1 AND RNAV 2 OPERATIONS
- AC 90-105A - Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S.
- 90-107 - Guidance for localizer performance with Vertical Guidance and Localizer
- Instrument Procedures Handbook

ICAO:

- ICAO Doc 9613 Performance-Based Navigation (PBN) manual ICAO Doc 7030 Regional supplementary procedures
- ICAO Doc 8168 Aircraft operations: Volume I: Flight procedures, and Volume II: Construction of visual and instrument flight procedures
- JAA TGL - 10 Airworthiness and operational approval for precision RNAV operations in designated European airspace
- Doc9849 - Global Navigation Satellite System (GNSS) Manual
- ICAO Doc 8168 - PANS-OPS
- ICAO Annex 4, 11, 14 and 15

TC:

- TP 14371 - Aeronautical Information Manual (AIM)
- AC 700-023 - RNP APCH
- AC700-024 - RNP AR APCH
- AC 700-025 - RNP 1
- AC700-027 - Radius to Fix Path Terminator
- AC 700-030 - PBN Enroute
- TP 312 Aerodrome Standards and Recommended Practices - Land Aerodromes

The operator remains responsible for obtaining approval from the regulatory authority.

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