

CN420: GNSS Modernization; GPS and Galileo
ION GNSS 2006, September 26, 2006, 1:30 am-5:00 pm, CEU: 3.0

Instructor: Thomas Stansell, Stansell Consulting

Prerequisite: Some knowledge of mathematics and computer science will be useful.

Intended Audience: Engineers, scientists, and managers involved with satellite navigation using GPS, Galileo, and/or Glonass seeking information on new GNSS signal formats and systems. The course provides information on modernized GPS signals, Galileo, and the Quasi-Zenith Satellite System (QZSS). The course is a systems level course and not too detailed for the beginner to GNSS.

Notes Provided: Slides presented will be professionally spiral bound, with clear plastic cover, including color to add clarity where needed.

Reference List: A reference list will be provided as part of the note package for completeness and to allow the interested attendee to obtain additional information.

Course Overview: This course provides information on many aspects of GNSS modernization; the course covers topics on GPS modernization, Galileo signal formats and services, and QZSS concepts including:

Course Content: The main topics to be covered by this course are:

- Motivations for modernization
- GPS Modernization:
 - L2C, L5, M-code, and L1C signals
 - Performance trade-offs and applications
 - Improved GPS III functionality
- Galileo:
 - L1 OS, PRS, E5A, E5B, E6 signals
 - Services; OS, CS, SOL, PRS SAR
 - Other system issues
- Quasi-Zenith Satellite System (QZSS)

Course Outcomes: At the completion of this course, the attendee should have the ability to understand the various modernization efforts ongoing to GNSS and assess their applicability to various applications.