

### Course Summary

This course is presented to integrate the use of statistical concepts into GNSS precision and accuracy analysis. The seminar will explain statistical terms and formulas with examples taken from GNSS data. Attendees will learn how to better understand precision and accuracy data from vendor brochures, GNSS recorders, and software reports. Attendees will also be able to utilize statistics in analyzing their own GNSS data to make their own precision determinations for their GNSS receivers.

### The Presenters

**Assoc. Prof. Thomas H. Meyer**, PhD, Department of Natural Resources and the Environment, College of Agriculture, University of Connecticut. He teaches undergraduate and graduate courses in GIS, Geodesy, Analytical Cartography, and GPS. Dr. Meyer has authored a geodesy textbook and numerous peer-reviewed papers about surveying and mapping, and teaches professional education seminars for surveyors throughout New England and the US. Prof. Meyer is a past president of the New England Section ACSM.

**John J. Doody**, PS & PE, Adjunct faculty Civil Engineering Department, Central Connecticut State University, teaches a course in GPS. He is the chair of the CALS Professional Development Committee, and has presented a seminar in GNSS post processing for CALS

### Learning Objectives

The purpose of this workshop is to develop a working knowledge of GNSS statistics for land surveyors. Attendees will also become familiar with actual case studies for analyzing GNSS equipment precision and accuracy, including static, RTK and RTN operations.

### Length of Course Activity

The workshop consists of 6.5 contact hours of actual instruction (not including breaks, lunch and registration.) (0.65 CEU) NY, 6.5 PDH for VT,ME,RI and 1.6 CEU, NH. Application has been made for approval of these hours.

### Schedule

- 8am - 8:30am Registration, Coffee
- 8:30am-10am Intro to Statistics, Mean, Standard Deviation, Probability
- 10:00am-10:15am Coffee Break
- 10:15am-Noon GNSS Positioning and Error Budget: Static, RTK, RTN Operations
- Noon-12:30pm Lunch
- 12:30pm-1:30pm Independent Observations Correlation
- 1:30pm-2:15pm Confidence Intervals & Hypothesis Testing
- 2:15pm-2:30pm Break
- 2:30pm-4:00pm Case Studies  
ACORN-UCONN  
GNSS Calibration CCSU  
Benchmarks CT River

### Costs, Refunds, Cancellation Policies

Registration fee for the workshop: \$200 CALS members only. Full refunds for cancellations made 48 hours prior to the workshop.

NOTE: Up to 3 seats each will be reserved for current members of CALS who are unemployed. . The cost of the seminar will be \$15. Please provide a copy of your unemployment document with your registration. Seats will be filled on a first come first serve basis. Seminar is limited to 18 attendees.

### REGISTRATION : GNSS STATISTICS FOR LAND SURVEYORS

Name: \_\_\_\_\_ Company: \_\_\_\_\_  
Address: \_\_\_\_\_ Phone: \_\_\_\_\_  
City: \_\_\_\_\_ State : \_\_\_\_\_ Zip: \_\_\_\_\_  
Email: \_\_\_\_\_ If unemployed check line \_\_\_\_\_

Registration Fee \$200 for CALS members\*. Unemployed members \$15 (limited to 3seats). includes continental breakfast , free parking & handouts.

\*Registration fee for all members of New England & NY Professional Surveying Societies  
Phone (860) 563-1990 Fax (860) 529-9700 email kathy@ctsurveyor.com  
Make Check Payable to : CALS and send to CALS, 78 Beaver Road, Wethersfield, CT 06109

**Directions:**

From I-84 (Waterbury – East) Exit 35 (left exit) to Route 72 East. Take Exit 9 - Main Street. At end of the exit take a right. At the next light take a right onto Chestnut Street and another right onto Main Street. ITBD is a red brick building located on the right just past ‘Subway’.

From I-84 (Hartford – West) Exit 39A to Route 9 South. Take Exit 27 – Chestnut Street (left exit). At the end of the exit take a right onto Chestnut Street and proceed to the third light. Take a right onto Main Street. ITBD is a red brick building located on the right just past ‘Subway’.

From the South (Routes 9, 91 or 15) Go north on route 9 to Exit 26 – Downtown New Britain. Go straight at the end of the exit. Take a left at the following traffic light (CVS is on the corner) onto Chestnut Street. Take your second right onto Main Street. ITBD is a red brick building located on the right just past ‘Subway’.

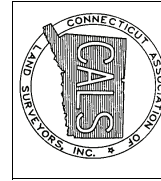
**Parking:**

Parking is available in the Municipal Parking Garage in back of the ITBD building (access is on Chestnut Street just south of Main Street). Bring your ticket with you to be stamped for free parking

Map:  
<http://www.ccsu.edu/itbd/directions/default.htm>

*SECURING THE FUTURE THROUGH EDUCATION*

CALS  
78 Beaver Road  
Wethersfield, CT 06109



**Connecticut Association  
of Land Surveyors &  
ACSM New England Section  
Present:**

**GNSS STATISTICS  
For  
LAND SURVEYORS  
In  
CONNECTICUT**

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**Assoc. Prof. Thomas H. Meyer, PhD  
and  
John Doody, PS & PE**

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**Thurs., January 12, 2012**

**CCSU Institute for Technology  
and Business (ITBD)  
185 Main Street  
New Britain, CT**

**Professional Workshop PDH/CEU credit  
applied for NY,VT, NH, RI & ME**

**For more information:**

**[jjdoody@snet.net](mailto:jjdoody@snet.net)  
203-933-3850**