



Engineering Continuing Education
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Three Day
 Surveyor Series
 September 26-28, 2017
 October 10-12, 2017



A Local Technical Assistance Program - LTAP

presents

**A Three Day
 Surveyor Seminar
 Series**

**September 26-28, 2017
 Montgomery
 October 10-12, 2017
 Pelham**



INSTRUCTORS

Milton E. Denny, PLS is a registered surveyor in six states, and a veteran of surveying, mapping and GIS. His special interest has always been in project development and management of firms. He is a past president of the Alabama Society of Professional Land Surveyors, a Fellow in the American Congress on Surveying and Mapping and served for many years on the Board of Direction. Mr. Denny is the author of many manuals dealing with surveying, mapping and GIS. He is a nationally known speaker and lecturer on these subjects and writes a column called *"The Business Side"* for a trade magazine. He was instrumental in the starting of a new member organization in the American Congress on Surveying and Mapping called the *"Geographic and Land Information Society"*.

Since retirement he has formed the firm of Denny Enterprise, LLC to better serve the surveying and mapping community. He is currently working at off campus locations for Auburn University teaching professional development classes. He also teaches basic and advanced surveying for the Alabama Department of Transportation.

Jeffery N. Lucas, JD, PLS is in private practice in Birmingham, Alabama. Lucas has been in the surveying business since 1976. He is a licensed land surveyor registered in Alabama, Florida, Georgia, Mississippi and Tennessee. Lucas is a licensed attorney and was admitted to the Alabama State Bar in 2003. Lucas is the author of *"Alabama Boundary Law," "The Pincushion Effect, The Multiple Monument Dilemma in American Land Surveying"* and *"Illinois Boundary Law."* He has also authored over 100 articles on surveying and boundary issues and writes a regular column for P.O.B. Magazine since 2004. He is currently the Alabama Division Manager for ESP Associates, P.A.

INSTRUCTORS CONTINUED

Larry Crowley, PhD is an emeritus faculty member of the Civil Engineering Department at Auburn University where he taught for 25 years. At Auburn, he developed and taught the sophomore Surveying course and associated lab, the freshman Introduction to Civil Engineering course with its heavy emphasis on MicroStation CAD instruction, and the senior Capstone Course in Design-Build where local projects were designed while considering both engineering and construction elements of the effort. He served for five years on the Auburn Faculty Leadership team with year-long roles as Senate Secretary, Chair of Auburn Faculty, and Faculty Representative to the Auburn Board of Trustees. His present research includes collaborating with Milton Denny in the investigation of the first Southern Boundary of the United States marked by earthen mounds at one mile intervals and now establishes the boundary between five southern states. He is also researching, with his PhD student, the development of a conceptual framework of the reemerging Design-Build project delivery method.

DAY ONE

The Original Public Land Surveys in Alabama (General Land Office)

This seminar will examine the United States Public Land system, their extent and how the government acquired the land. The rectangular system known as the GLO was designed by Thomas Jefferson and his committee. It will also cover the system of survey contracts and the surveyors that walked the land in Alabama. You will understand the instructions for field operations and why modern survey distances differ from historic records. The seminar also contains actual maps and diagrams of government surveys in Alabama along with information on equipment used to complete this survey. You will learn to appreciate how these original surveys became the basis for every modern resurvey - a must for anyone dealing in land boundaries.

The final part will deal with accuracy of original surveys and the relationship to modern survey equipment. If you work in a Public Lands state, this seminar is a must for the surveyor.

DAY TWO

How to Make a Boundary Determination that will Win in Court

What are the important issues to know and understand in order to make a boundary determination that will win in court, should you find yourself in court defending your map of survey and your opinion on the location of the property boundaries involved? What is the evidence standard that will be applied, the standard of care for professional surveyors in court, and what is the criterion for boundary determinations? This course studies the relevant evidence standards, different types of evidence, the standard of care, and explores the process of rendering a well-reasoned opinion on the only question that is within the purview of the retracing surveyor—the location question. The importance of deeds in and the role they have in boundary determination, the interpretation of deeds, finding intent, and how and when the boundary establishment doctrines come into play. The “Ultimate Issue Rule” will be discussed and its importance relative boundary determinations and liability. If you eventually find yourself in court over a boundary dispute, losing in court is not an option. The boundary surveyor who has rendered a well-reasoned opinion on the boundaries based on the law and the facts, is in a much better position to win in court than the surveyor who simply applied math and measurements as taken from a deed. Power Point Presentation.

Boundary Dispute Resolution

Many surveyors see themselves as “expert measurers” not “expert evaluators of evidence.” But in truth, the surveyor’s role is to form an opinion as to where the surveyor feels the boundary lines would be located if fully adjudicated in a court of law. This can only be done by proper interpretation of the deeds, gathered the best available evidence relevant to the proper location of the boundary between the coterminous landowners involved, evaluating that evidence, and making a decision as to the true location of the boundary line. These decisions, however, must be legally sound. The principles of law used by the courts when dealing with conflicts in boundaries will be studied. This seminar will also explore effective ways of resolving these conflicts before they become full blown boundary disputes with resulting litigation. Power Point presentation.

DAY THREE

State Plane Coordinate Systems in a GPS World

The State Plane Coordinate System is the reference geometric system and frame for most all surveying and engineering projects today. While these large area coordinate systems were instituted in the 1930’s and have been utilized since then, the nature of use in practice has changed with the increasing reliance on modern tools of Global Positioning System (GPS), Computer Aided Design (CAD) and Geographic Information Systems (GIS).

The seminar material is organized in two sections. The first section addresses the generalized conceptual framework of State Plane Coordinate Systems organized within a chronological context. Concepts are incrementally developed for the participant as practical, logical, self-evident solutions to the presenting problem and opportunities of the day. As will be discussed, the System began simply as an approach to utilize the nationwide horizontal control monuments of the U.S. National Geodetic Survey for local project coordinates. These coordinates were developed by traversing from these monuments with measured angles and chained distances to the project site. As a result, many using state plane coordinates erroneously assumed these were surface coordinates where the Northing and Easting component of each measured traverse leg would reflect the difference in the State Plane Coordinate values. This assumption was understandable given the ellipsoid used as the earth model at this time was uniquely fit to the North American surface. Any resulting errors from this assumption were likely masked by errors attributable to the surveying equipment in use and might ultimately have been within allowable tolerances. Most importantly, internal project control continued to be realized by surface measurements from field monuments not State Plane Coordinates. The second section explores and demonstrates necessary abilities and skills in comprehending, interpreting, applying and analyzing State Plane Coordinates in professional practice today. These abilities and skills play a critical role because today the State Plane Coordinate System itself serves as the geometric reference that is used for project/surveying control. GPS equipment makes this control accessible and observable to the user. Consequently, any unrecognized distortion between State Plane and Surface Coordinates is now a function of

DAY THREE CONTINUED

the project/survey control. Thus, professionals working with these modern tools must acquire greater knowledge and stronger abilities and skills in dealing with State Plane Coordinates. Also, NGS resources for State Plane Coordinates which are now available online will be highlighted.

Tort Liability and Ethics

This seminar will treat a central question that remains always before us as we make choices on both a personal and professional level - a question that society demands we ask ourselves individually. It is the question that society will use in judging our actions and the resulting consequences. This question, which can be styled in many different ways with the same affect, is "What good thing must I do?". From a legal perspective, this question is styled as a negative, advising us to "Do no wrong." The legal term *tort* means a wrongful act. Guided by this perspective, lawyers advise us to do good by describing what past juries have found to be wrong.

Ethicists offer a different styling of the "what good thing must I do" question, suggesting good is relative to a chosen perspective. In fact, many ethicists would challenge other's right to judge if using a different perspective. However, we do share a common perspective - a common law. Our society's founding principles illuminates this shared perspective for all of us, either through choice for most, or by mandate for the rest.

In this seminar, we will consider two seemingly divergent perspectives which are in reality part of the same system - a layered system. At one level, this system deals with shared, common values central to answering "what good thing must I do". At a different level, this system deals with the law as the mechanism to deal with those choosing to disregard these values.

In doing this, we will look 'under-the-hood' of our system starting with the legal and ethical heritage that has shaped our culture and society. Based on criteria, we will evaluate current legal perspectives to determine which will tend to work best for us. Presupposing a straightforward perspective serves best, we will explore whether or not it leads most often to the "right" legal conclusions. Finally, we will see this straightforward approach illustrated as we work through 'risk management' efforts of state agencies dealing with highways, roads, and bridges.

CONTINUING EDUCATION UNITS

Participants completing the seminars will receive 0.60 Continuing Education Units (CEUs) for each day completed for a maximum of 1.8 CEUs. The CEU is a nationally accepted measure of continuing education credit and is awarded at the rate of one CEU for each ten contact hours of qualifying instruction. Auburn University makes every effort to ensure that the CEU granting programs conform to the requirements of the State of Alabama Board of Licensure for Professional Engineers and Land Surveyors for the award of Professional Development Hours to support the annual renewal of professional licensure.

SPONSORSHIP

This seminar is one of the series of conferences and workshops being conducted as part of the Alabama Technology Transfer Center at Auburn University. This program is a part of the Local Technical Assistance Program (LTAP) supported by the Federal Highway Administration, the Alabama Department of Transportation and Auburn University.

This seminar is the 348th offered, with more than 45,000 attendees, since the program's inception in 1983. In addition to conducting training seminars, the T2 Center also publishes a quarterly newsletter, distributes publications and maintains a lending library of videotapes on technical subjects. The Alabama Technology Transfer Center is administered at Auburn University through the Engineering Continuing Education office and the Department of Civil Engineering. For further information and suggestions for future programs, contact Rod Turochy, Department of Civil Engineering, at 334-844-6271 or rodturochy@auburn.edu

ACCOMMODATION OF PARTICIPANTS WITH DISABILITIES

It is the policy of Auburn University to provide accessibility to its programs and reasonable accommodation for persons defined as having disabilities under the Americans with Disabilities Act of 1990. Please contact us at least two weeks prior to the event so that proper consideration can be given to any special needs.

CANCELLATION POLICY

We understand that circumstances may arise that could require you to cancel your registration, and we make every effort to accommodate your needs. Due to commitments to our instructors and facilities, the registration fee is not refundable if a registrant withdraws less than five working days before the seminar. You may substitute registrants; please notify us in advance if possible. Non-paid, no show registrants will be invoiced for the full cost of the seminar. Engineering Continuing Education reserves the right to cancel or modify any program offering, but will provide registrants the option of a full refund. Auburn University will not be responsible for expenses incurred by a registrant as the result of a cancelled or rescheduled program.

REGISTRATIONS

Your pre-paid registration guarantees you a seat in the seminar as well as information on any changes to the seminar. Registration on the day of the seminar will be accepted on a space available basis, but enrollment will close when the capacity of the seminar is reached. **Participants are reminded that registration is not complete until payment is received.**

ONLINE REGISTRATION AT: WWW.ENGCE.AUBURN.EDU

Three Day Surveyor Seminar Series

Montgomery September 26, 2017 September 27, 2017 September 28, 2017
Hilton Garden Inn Montgomery - East Chase
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Pelham October 10, 2017 October 11, 2017 October 12, 2017
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