

What is the Future of the Professional Surveyor?

Presented by:
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 ABONMARCHÉ



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Seminar Outline/Description

- Many developments over the past few decades have caused significant change in the land surveying profession. These developments include major advancements in technology, increased requirements for professional licensure, and a decline in the availability of land surveying programs at colleges and universities. Other professions appear to be encroaching into what has traditionally been perceived to be the territory of the land surveying profession.
- It is time for the land surveying profession to begin defining how the profession will sustain over the next couple of decades. Hopefully, this will be embraced by the profession as opportunities for growth rather than just defending turf.

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Seminar Objectives

Topics presented in this seminar will include the following:

- Identification of the apparent views of the role of the Professional Land Surveyor in society over time
- Identification of challenges facing the Professional Land Surveyor of the future
- Discussion of factors affecting the path to licensure as a Professional Land Surveyor
- Review of the definition and legal role of a Professional Land Surveyor
- Review of basic legal principles relative to boundary surveying
- Discussion of how the land surveying profession can sustain in the future

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What is the Future of the Professional Surveyor?



(Images from rhtasel.net, landsurveyors.com, and rhhatterman.com)

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What is the Future of the Professional Surveyor?

"We have tried to honor his memory {Curtis Brown} with what we believe is a new and innovative book suitable for the 21st-century student. More and more students are being denied an adequate background in the legal aspects of surveying, for the technical aspects of the profession are stressed in many courses. In fact, there are certain individuals who espouse that surveyors will no longer need to identify boundaries and corners with markings and monuments. This is wrong.

As the capabilities of technology increase, time becomes critical. Studies and courses in GIS and GPS are replacing some of the legal boundary courses in our colleges."

(by Walter Robillard and Don Wilson, March 1995 - Included in Preface to *Boundary Control and Legal Principles*, Fourth Edition)

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What is the Future of the Professional Surveyor?

"The technical aspects of surveying are becoming more complex, and colleges and universities are having difficulties finding time in already crowded class schedules to add new courses. As our careers have progressed throughout the years, we have, either by necessity or by demand, created a special area of surveying that is seldom included in courses of studies of those colleges that teach surveying programs, that is, the legal area of surveying."

"No longer do young surveyors commence at the bottom of the professional ladder and learn by doing. Today the trend is toward college-trained individuals to fill the ranks of the professional surveyors and, as such, the 'hands-on' experience that has made this book so popular is being denied to the students. The technical aspects of surveying are developing more rapidly than are the legal aspects or the business aspects of the profession."

(by Walter Robillard and Don Wilson, March 1995 - Included in Preface to *Boundary Control and Legal Principles*, Fourth Edition)

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Major Points of Discussion

- Advancements in Technology
- An Aging Profession
- Status of Surveying as a Profession
- Increase in Requirements for Licensure as a Professional Land Surveyor
- Availability of Land Surveying Programs at Colleges and Universities
- Other Professions
- Legal and Political Threats to Professional Licensure

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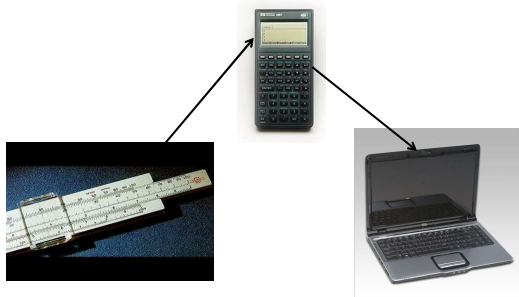
How Has Technology Advanced Over Time???



(Images from allposters.com, e-education.psu.edu, nptel.ac.in, and leica-geosystems.ch)

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How Has Technology Advanced Over Time???



9

How Has Technology Advanced Over Time???



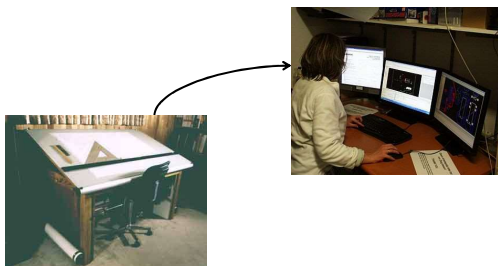
10

How Has Technology Advanced Over Time???



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How Has Technology Advanced Over Time???



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How Has Technology Advanced Over Time???



(Image from pobonline.com)

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What is a Land Surveyor??



(Images from sonofthesouth.net and cmssurveyors.com)

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What is a Land Surveyor??

"A land surveyor is someone who plots land boundaries, creates maps, provides legal descriptions, assists in urban planning and helps develop property."

(From ehow.com)



(Images from calapprenticeship.org and newmanlandsurveying.com)

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What is a Land Surveyor??

- ✓ Land Surveyor
- ✓ Professional Land Surveyor
- ✓ Registered Land Surveyor
- ✓ Licensed Land Surveyor
- ✓ Professional Surveyor
- ✓ LS
- ✓ PLS
- ✓ RLS
- ✓ PS



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What is a Professional???

A "profession" is defined as *"an occupation requiring advanced academic training, as medicine, law, etc."* (Webster's New World Dictionary)

Therefore, a "professional" is a member of such a profession.

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What is a Professional???

- "The roots of professionalism are thought to lie in theology where clergy 'professed' a duty to God. "Profession" took on a secular meaning sometime in the late 17th century, extending to medicine and law (Howell and Howell, 1976) and later to surveying and engineering in the mid 19th century (Bender, 1987).
- A "profession" is defined as *"an occupation requiring advanced academic training, as medicine, law, etc."* (Webster's New World Dictionary) Therefore, a "professional" is a member of such a profession.
- A "professional" is a person, who is a member of a professional body due to the education qualification and follows the prescribed moral and professional code of conduct. (thelawdictionary.org/professional)

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Attributes of a Professional

If a surveyor wants to be in a learned profession, the individual must seek the attributes of the learned professions. Ten of these attributes are as follows:

1. having a unique and superior education in a specific field of knowledge,
2. providing a service to the public in having the ability to persuade,
3. placing oneself in a position of trust,
4. conducting practice within a code of ethics,
5. desiring to gain high eminence with financial return of secondary importance,
6. using independent judgment and accepting liability,
7. providing services to those unable to pay,
8. charging fees to those able to pay, such fees are dependent on the services rendered rather than labor or product,
9. becoming a persuasive and effective communicator, and
10. seeking continued education to maintain professional competency.

(From Evidence and Procedures for Boundary Location)

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Professional Land Surveyor – Wisconsin

“Professional land surveyor” means a person who, by reason of his or her knowledge of law, mathematics, physical sciences, and measurement techniques, acquired by education and practical experience, is granted a license under this chapter to engage in the practice of professional land surveying.

(From Wisconsin Statutes, 443.01 (7m))

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The Legal Role of The Surveyor

“The law in most jurisdictions has recognized a qualified surveyor as being a professional person in the status of an architect, lawyer or doctor. When he/she acts in such capacity, the surveyor acquires certain standards of conduct that entitle him/her to recognized privileges and, at the same time, impose upon him/her definite responsibilities.”

“The surveyor’s client employs him/her because the surveyor has skills upon which the client is entitled to rely. This includes the initial collection of data and its later interpretation. The true test of a surveyor is not his/her ability to manipulate the tools of his/her trade, such as the transit, theodolite, or the chain, but is that of his/her use of the knowledge or information gained.”

(From Clark on Surveying and Boundaries)

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The Legal Role of The Surveyor

"Because of a surveyor's professional status:

- 1. The surveyor is elevated to recognition in the courts of law above that of a layman.*
- 2. He/she is held to a higher degree of liability for his/her errors than is an ordinary person because of the degree of trust placed upon him/her for impartiality, capability and responsibility.*
- 3. He/she is presumed to possess those skills and education required of an expert in his/her field."*

(From Clark on Surveying and Boundaries)

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Professional Conduct

"DEFINITION: Ethics includes that branch of moral science concerned with the duties members of a profession owe to their public, their professional associates, and their clients."

"Without a firm foundation of ethics one cannot be a professional."

(From Evidence and Procedures for Boundary Location)

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The Role of the Surveyor Over Time

Great Pyramid of Giza

"..... the oldest and largest of the three pyramids in the Giza pyramid complex bordering what is now El Giza, Egypt. Believed to have been built over a 10 to 20 year period around 2560 B.C."

(From wikipedia.com)



(From Zwonders.org)

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The Role of the Surveyor Over Time

Great Pyramid of Giza

Each side was 440 cubits (or 755.9 ft)

Professionally surveyed by J.H Cole and published in 1925.

Length of Sides:

West: 755.76 feet
 North: 755.41 feet
 East: 755.87 feet
 South: 756.08 feet



(From 2wonders.org)

(From theglobaleducationproject.org)

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The Role of the Surveyor Over Time

Great Pyramid of Giza

Angle of Corners:

Northwest: 89°59'58"
 Northeast: 90°03'02"
 Southeast: 89°56'02"
 Southwest: 90°03'02"

Area of the Base: 13 acres



(From 2wonders.org)

(From theglobaleducationproject.org)

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The Role of the Surveyor Over Time

Kudurru was a type of stone document used as boundary stones and as records of land grants to vassals by the Kassites in ancient Babylonia between the 16th and 12th centuries BC.

(From wikipedia.com)

"The boundaries of the land are laid out; the surveyor is named as Amurru-bel-zeri and the transfer completed by two high officials who are also named." (circa 1125-1100 BC)

(From britishmuseum.org)



(Image from duhaime.org)

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The Role of the Surveyor Over Time

- It is recorded that for over 1000 years ancient Rome used surveyors to locate boundaries, survey roads, and aqueducts.
- In fact, the Roman Agrimensores, namely the surveyor, was required to pass an examination for competency.
- Because of the nature of surveying and the varied needs, Rome separated the "civil" surveyor from the "military" surveyor.

(From Evidence and Procedures for Boundary Location)



(Image from the-romans.co.uk)

The Role of the Surveyor Over Time

- In early times, surveyors possessed special skills and talents that were regarded with almost reverent respect; they filled a necessary need in civilization, and they utilized the most advanced sciences known to the world.
- The same Roman surveyors were required to receive special training in the varied aspects of leveling and boundary law while in school. They were guided by a series of textbooks titled The Corpus.

(From Evidence and Procedures for Boundary Location)



(Image from the-romans.co.uk)

The Role of the Surveyor Over Time

Prominent Surveyors in American history

- George Washington
- Thomas Jefferson
- Abraham Lincoln
- Jared Mansfield
- Edward Tiffin
- Charles Mason
- Jeremiah Dixon
- Andrew Ellicott
- Benjamin Banneker
- Daniel Boone



(Image from various sources)

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What is a Professional???

A "profession" is defined as *"an occupation requiring advanced academic training, as medicine, law, etc."*
(Webster's New World Dictionary)

Therefore, a "professional" is a member of such a profession.

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What is a Professional???



(Images from clipartpanda.com, funcentrate.com, freeclipartnow.com, and shutterstock.com, clipartbest.com)

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Is the Land Surveyor a Professional, or

"Licensed Profession or Licensed Trade – The 4-Year Degree's Impact on Surveying"
Dave Gibson, Founding Surveying and Mapping Program Director, University of Florida,
July, 2009

"Rules of the Game: The Four-Year Degree Standard for Surveying's Recognition as a Profession"
David W. Gibson, Founding Surveying and Mapping Program Director, University of Florida
Professional Surveyor Magazine, January 2010
<http://archives.profsurv.com/magazine/article.aspx?i=70522>

"Guest Column: Hey, Don't Shoot the Teacher!"
Dr. Charles A. "Tony" Nettlesman, III, PSM, Esq., Assistant Professor of Geomatics,
Texas A&M Corpus Christi
POB Magazine, January 2016
<https://www.pobonline.com/articles/98012-guest-column-hey-dont-shoot-the-teacher>

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Is the Land Surveyor a Professional, or

- “A “Learned Profession” must have a college base – A learned profession requires college education to understand adequately. A true learned professional must understand the mathematical, scientific, legal, environmental, and societal framework within which the work takes place. It also requires attributes of a college general education – the ability to speak confidently, write authoritatively, research published information, analyze issues, apply math and science when needed, and so forth.” (*Gibson, 2009*)
- “Learned professions don’t elevate the working support staff (technicians) to professional rank. Legal aids don’t become lawyers unless they go through law school. Nurses and medical assistants are terminal nurses and medical assistants. Engineering technicians (drafters, etc.) are well paid terminal technicians.” (*Gibson, 2009*)

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Is the Land Surveyor a Professional, or

- “The 1992 [Florida] Supreme Court followed a 1988 Supreme Court definition of the statutory term “professional” in a case involving insurance underwriters/agents, *Pierce v. AALL Insurance Co.*, 531 So.2d 84 (Fla.1988). The 1992 court stated: ‘Accordingly, in harmony with the central thrust of *Pierce*, we hold that a ‘profession’ is any vocation requiring at a minimum a four-year college degree before licensing is possible in Florida. There can be no equivalency exception.’” “Accordingly, some future admittees could be licensed without a four-year degree, and land surveyors thus are not professionals for purposes of the statute of limitations.” (*Gibson, 2010*)
- “In 2008-2009, Maine surveyors were surprised to find that the U.S. Department of Labor ruled that they were not members of a ‘learned profession,’ because Maine state statutes do not require surveyors to have a four-year degree to be licensed. Maine surveyors fought the DOL decision and asked ACSM to help. After a diligent challenge to the ruling, the surveyors lost, and the DOL decision stands.” (*Gibson, 2010*)

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Is the Land Surveyor a Professional, or

- The profession is turning gray and new blood is in high demand. Recruiting young people should not be the sole burden of the geomatics program, but should be shared between the universities, the state societies and the professionals in the field. Instead of suggesting we simply do away with all of the four-year programs, I propose that we reinvigorate the profession by creating a stronger relationship between these organizations. (*Nettleman, 2016*)
- “The art and science of land surveying as reviewed above become more complex daily, and education to this writer is vital to our future. We need to attract future surveyors and educate them sufficiently in the technical sense and the practical field sense using high standards, not lower the bar. We will always have some degree of frustration with the product of our efforts, but let us not lower the bar only to genuinely regret it later.” (*Nettleman, 2016*)

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Some Factors Affecting Land Surveying

- **Changes in Technology**
 - Some Technologies Overlap into Other Disciplines
- **Requirements for Licensure**
 - Significant Differences in Licensure Requirements Among States
 - Some States Require BS Degree in Land Surveying With No Such Program Available in Their State
 - Results in Fewer Applicants for NCEES FS and PS Exams
- **Decrease in Availability of Land Surveying Degrees Nationally**
 - Many Key Professors in Established Degree Programs are at Retirement Age
 - Major Universities Require Ph.D. for New Tenure-Track Faculty
 - Decreasing Enrollments

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NCEES Model Law
(National Council of Examiners for Engineers and Surveyors)

NCEES
advancing licensure for engineers and surveyors

home about engineering surveying licensure news contact

Model Law designation

The NCEES Records program enables applicants for designation as a Model Law Engineer (MLE) and Model Law Surveyor (MLS). These designations indicate to state licensing boards that your education, experience, and examinations meet the NCEES Model Law requirements. In many states, this will further expedite the costly licensure process.

Summary of Model Law requirements

The requirements to become an MLE, NCEES, or MLS are summarized below. For complete details, review NCEES Professional Policy 2 in the NCEES Manual of Policy and Practice.

Model Law Engineer (MLE)

- Earn a bachelor's degree in engineering from an EAC/ABET accredited program.
- Gain four years of acceptable engineering work experience.
- Pass Part I and II exams.
- Maintain a clean disciplinary record.

Model Law Surveyor (MLS)

- Earn a bachelor's degree in surveying from an EAC/ABET/NSAS/ABET accredited program.
- Gain four years of acceptable surveying work experience.
- Pass Part I and II exams.
- Maintain a clean disciplinary record.

From <https://ncees.org/records/model-law-designation/>

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NSPS Position Statement on Education

NSPS
National Society of Professional Surveyors

ABOUT MEMBERSHIP PROGRAMS ADVOCACY EDUCATION PR RESOURCES FOUNDATION ESTORE FUTURE OF SURVEYING

EDUCATION POLICY

EDUCATION • EDUCATIONPOLICY

By vote of the NSPS Board of Directors on October 24, 2014, the NSPS Education Policy states:
"The official position of the National Society of Professional Surveyors shall be that a Bachelor's Degree in Surveying, Surveying Engineering, or Surveying Engineering Technology be the minimum educational requirement for licensure as a Land Surveyor in all Jurisdictions."

SIGN IN
Sign In securely

LATEST NEWS
Statement on the Geospatial Data Act
Student Competition Winners

(From <http://www.nspss.us.com/?page=EducationPolicy>)

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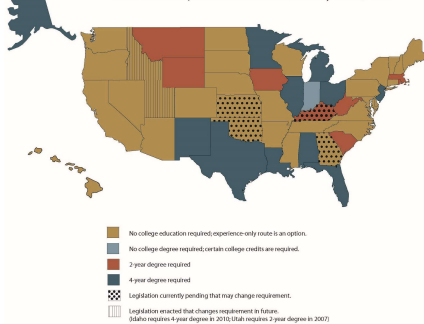
State Educational Requirements for FS (Surveying Intern)

Information Sources:

- "Education Requirements for Licensure by State, 2005", POB Magazine
- "Licensed Profession or Licensed Trade – The 4-Year Degree's Impact on Surveying"
By Dave Gibson, Founding Surveying and Mapping Program Director,
University of Florida, July, 2009
- NSPS Board of Directors
- Review of Individual State Board Web Pages

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Education Requirements for Licensure by State, 2005



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States with 4-Year Degree Requirements January 2020 (17)

Alabama	Minnesota
Alaska	Nevada
District of Columbia	New Jersey
Florida	New Mexico
Idaho	Ohio
Illinois	Puerto Rico
Kentucky	South Carolina
Louisiana	Texas
Michigan	

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States with 2-Year Degree Requirements January 2020 (8)

Arkansas	New York *
Indiana	Utah
Iowa	West Virginia
Montana *	Wyoming

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States with "Experience Only" Allowed January 2020 (27)

(Note: Some states require some level of completion of college-level surveying courses)

Arizona	Maryland (30 hrs.)	Oklahoma (60 hrs.)
California	Massachusetts	Oregon
Colorado	Mississippi	Pennsylvania
Connecticut	Missouri (12 hrs.)	Rhode Island
Delaware	Nebraska	South Dakota (18 hrs.)
Georgia (18 hrs.)	New Hampshire	Tennessee
Hawaii	North Carolina	Vermont
Kansas	North Dakota (24 hrs.) *	Virginia
Maine		Washington
		Wisconsin

(xx) Indicates minimum credit hours of college-level courses

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Summary of State Requirements

(Including Puerto Rico and District of Columbia)

- 4-Year Degree States – 33%
- 2-year Degree States – 15%
- "Experience Only +" States – 52%

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ABET Commissions

"The four Accreditation Commissions lead and conduct ABET accreditation activities. Each commission reviews programs related to different sectors of the technical disciplines." (From abet.org)



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ABET Accredited Programs

- ANSAC 4-year Programs (12)
 - University of Alaska – Anchorage, Geomatics (1995)
 - East Tennessee State University, Surveying and Mapping Science (1992)
 - University of Florida, Geomatics (1986)
 - Troy University, Surveying & Geomatics Sciences, Alabama (2010)
 - Oregon Institute of Technology, Geomatics – Option in Surveying (1985)
 - Kennesaw State University, Surveying and Mapping, Georgia (2004)
 - Texas A&M University – Corpus Christi, Geographic Information Science (1999)
 - University of Akron, Surveying and Mapping, Ohio (2010)
 - Nicholls State University, Geomatics, Louisiana (2008)
 - North Carolina A&T, Geomatics (2015)
 - Polytechnic University of Puerto Rico, Land Surveying and Mapping (2006)

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ABET Accredited Programs

- ANSAC 2-year Programs (2)
 - University of Akron, Land Surveying, Ohio (2010)
 - University of Akron, Geog. & Land Info. Sys., Ohio (2010)

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ABET Accredited Programs

- EAC 4-year Programs (7)
 - California State Polytechnic University – Ponom, Geospatial Engineering Option in Civil Engineering (1992)
 - California State University – Fresno, Geomatics Engineering (1979)
 - Ferris State University, Surveying Engineering, Michigan (1989)
 - Pennsylvania State University – Wilkes-Barre, Surveying Engineering (2004)
 - Florida Atlantic University, Boca Raton, Geomatics Engineering (2010)
 - Michigan Technological University, Surveying Engineering (2011)

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ABET Accredited Programs

- ETAC 4-year Programs (4)
 - Alfred State College, Surveying and Geomatics Engineering Technology, New York (1992)
 - University of Maine, Surveying Engineering Technology, Maine (2005)
 - Idaho State University, Surveying and Geomatics Engineering Technology, Idaho (2004)
 - New Jersey Institute of Technology, Surveying Option in Engineering Technology, New Jersey (1992)

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ABET Accredited Programs

- ETAC 2-year Programs (6)
 - Alfred State College, Surveying Engineering Technology, New York (1977)
 - Pennsylvania College of Technology, Surveying Technology (1994)
 - University of Puerto Rico @ Bayamon, Construction, Surveying and Roads Engineering Technology (2009)
 - Cincinnati State Technical and Community College, Civil Engineering Technology – Surveying Option, Ohio (1981)
 - State University of New York Environmental Science and Forestry – Land Surveying Technology (2009)
 - Paul Smith's College, New York, Surveying Technology (1991)

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Programs No Longer ABET Accredited

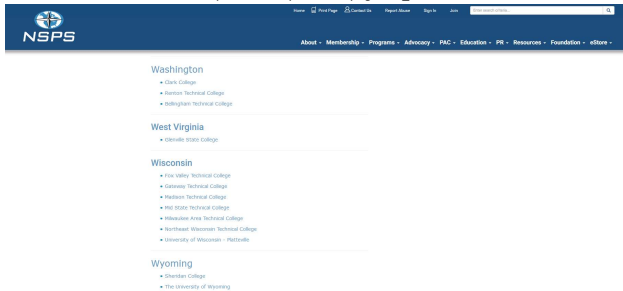
- Metropolitan State University – Denver (ANSAC) since 2010
- The Ohio State University – Columbus (EAC) Geomatics Engr. since 2010
- Purdue University – West Lafayette (EAC) since 2008
- University of Wisconsin – Madison (EAC) since 1998
- University of Houston – Surveying & Mapping Tech. 4-year (ETAC) since 2006
- Greenville Technical College – South Carolina 2-year (ETAC) since 2014
- Mohawk Valley Community College – New York 2-Year (ETAC) since 2016
- St. Cloud State University – Minnesota – Surveying & Mapping 4-year (ANSAC) since 2018 (*)
- New Mexico State University, Surveying Engineering (EAC) since 2019
- Pennsylvania State University – Wilkes-Barre, Surveying Engineering Technology (ETAC) since 2019

(From "ABET Accredited Surveying/Geomatics Programs", tabulated by Earl F. Burkholder, and from ABET web site)

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List of Programs Including ABET Accredited - NSPS

https://www.nsp.us.com/page/coll_univ



NSPS

About • Membership • Programs • Advocacy • PAC • Education • PR • Resources • Foundation • others •

Washington

- Clark College
- Eastern Technical College
- Indigraphics Technical College

West Virginia

- Marshall State College

Wisconsin

- Fox Valley Technical College
- Gateway Technical College
- Madison Technical College
- Milwaukee State Technical College
- Milwaukee Area Technical College
- Northeast Wisconsin Technical College
- University of Wisconsin - Milwaukee

Wyoming

- Sheridan College
- The University of Wyoming

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Minimum Qualifications for Tenure-Track Faculty

The Department of Construction Science and Organizational Leadership at Purdue University Northwest, invites applications for an Assistant Professor of Construction Engineering and Management Technology position starting on August 13, 2018. Responsibilities include teaching undergraduate and graduate courses in construction engineering and management technology. Assistant Professors are also expected to conduct scholarly research leading to refereed journal publications, write grant proposals, and participate in industrial engagement and various committees. Opportunities for interacting with regional businesses are excellent and encouraged. The Department of Construction Science and Organizational Leadership offers full support when presenting peer review papers at conferences. The department and university offer several internal opportunities for professional development and for preparing applications for external grants.

A Ph.D. degree in engineering, engineering technology, construction management, or a related field is required. The undergraduate degree must be in a relevant area. Ph.D. must be awarded prior to August 13, 2018.

(From recent open position posting at Purdue University Northwest)

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Average Age of Land Surveyor

- “The average age of a licensed land surveyor in the nation is mid-fifties.” (Per surveyingzone.com – appears to be from 2015)
- In addition to openings from growth, job openings will continue to arise from the need to replace workers who transfer to other occupations or who leave the labor force altogether. Many of the workers in these occupations are approaching retirement age as the average age of today’ Land Surveyor is in the mid-fifties. (Per landsurveyor4hire.com – from 2007)
- The average age of a land surveyor in the United States is about the same as in Europe – 57 to 58 years old (Paraphrased from comments from John Hohol, President of FIG Foundation at 2014 meeting of NSPS Board of Governors)

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FS
pass rates

The Fundamentals of Surveying (FS) exam is designed for recent graduates and students who are close to completing an undergraduate degree in surveying. Passing it is an important first step in the surveying licensure process.

Overall scores				Students with BS/MS/STAG/ JAGSM/JAGT Bachelor's degree				Other scores			
First Time		Repeat		First Time		Repeat		First Time		Repeat	
Volume	Pass Rate	Volume	Pass Rate	Volume	Pass Rate	Volume	Pass Rate	Volume	Pass Rate	Volume	Pass Rate
783	45%	422	30%	283	65%	75	36%	900	36%	347	29%

PS
pass rates

The Principles and Practice of Surveying (PS) exam is designed for surveyors who have gained at least four years of work experience. NCEES member boards require candidates to pass it as part of the licensure process.

Overall scores				Students with BS/MS/STAG/ JAGSM/JAGT Bachelor's degree				Other scores			
First Time		Repeat		First Time		Repeat		First Time		Repeat	
Volume	Pass Rate	Volume	Pass Rate	Volume	Pass Rate	Volume	Pass Rate	Volume	Pass Rate	Volume	Pass Rate
518	71%	204	35%	195	71%	75	35%	320	71%	129	42%

Other scores include candidates who do not hold a bachelor's degree from an ABET/STAG/JAGSM/JAGT-accredited program or who did not provide necessary supporting information during exam registration.

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NCEES Exam Pass Rates

(From “Squared – 2018”,
By NCEES)

<https://ncees.org/wp-content/uploads/Squared-2018-for-web.pdf>

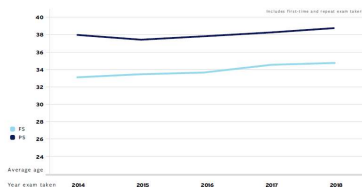
Average age of examinees by exam type

While the average age of surveying examinees has been fairly steady over the past five years, the number of examinees taking the FS and PS exams has decreased. NCEES is addressing this need by focusing on national board and state, educational, and recruitment and mentorship of the next generation of surveyors.



NCEES fact:

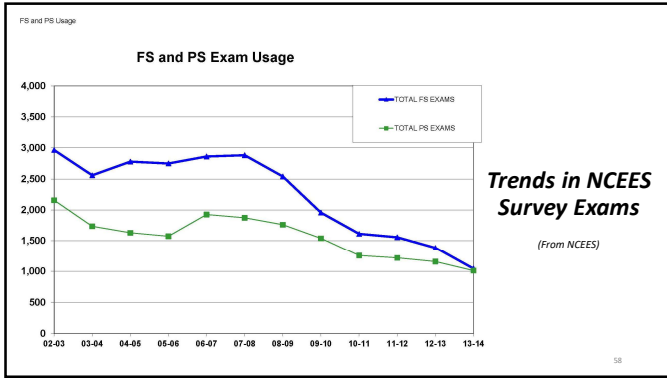
The NCEES Surveying Education Board recognizes surveying and geomatics programs that best reflect the NCEES mission of advancing surveying licensure in order to safeguard the health, safety, and welfare of the public. A grand prize of \$50,000, three \$10,000 awards, and three \$5,000 awards are presented to surveying and geomatics programs.



NCEES Examinee Average Age

(From “Squared – 2018”,
By NCEES)

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Licensure

U.S. surveying licensure was established in 1881 in California, and U.S. engineering licensure was established in 1887 in Wyoming. Today, all 50 states, the District of Columbia, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands regulate the practice of engineering and surveying.

Each year, NCEES surveys its 70 member boards for the number of engineering and surveying licenses in their jurisdictions. Below are the numbers of engineers and surveyors per jurisdiction as reported by the individual boards in 2018. Licensure who are licensed in multiple states are included in the numbers for each jurisdiction where they are licensed. Many states also track the number of state resident licensees versus non-resident licensees; these are reported as resident and nonresident in the charts below.

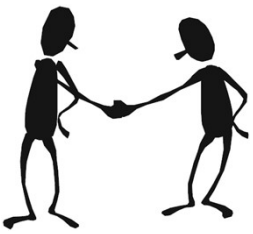
(From "Squared – 2018", By NCEES)

	Engineers		Surveyors		Engineers and surveyors (total licenses)	
	Resident	Nonresident	Resident	Nonresident	Resident	Nonresident
OR	5,415	7,921	691	242	152	24
PA*	28,108		1,793			Not tracked
PR	7,223	836	344	28	87	11
RI	858	4,030	98	77	11	3
SC	5,369	11,501	553	411	99	24
SD	1,033	3,458	171	309	56	15
TN	5,754	7,107	738	341		Not tracked
TX	44,028	21,915		2,850		Not tracked
UT	10,850		734		86	
VA	11,982	16,928	937	354	143	38
VI**	618		101			29
VT	735	3,172	213	88		Not tracked
WA	14,916	12,045	836	301	390	186
WI	6,826	7,454	735	383		Not tracked
WV	1,710	7,474	484*	390*	177	90
WY	1,185	5,810	157	188	39	23

*Members have reported no data
**Members have reported no data



Thank You!!!



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 **ABONMARCHE**

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