

CST Program Overview

**NSPS Survey Technician
Certification Program**



A career path:

NSPS

CST

CERTIFIED SURVEY TECHNICIAN

**Certification is a short
term attainable goal.**

STCB Mission

- **To promote and recognize the importance of technicians to the surveying and mapping profession.**
- **To encourage and support the development of competent technicians.**

**Approximately 500 CST exams are
administered yearly**

There are over 1700 active CSTs

History of the CST Program



Goals of the Certification Program

- **Recognize the important contribution that technicians provide to the surveying and mapping profession.**
- **Provide credentials to technicians.**

Goals of the Certification Program

- **Identify those technicians who have achieved specific technical competencies.**
- **Provide a career ladder for technicians.**

Goals of the Certification Program

- Provide employers with a way to evaluate applicants and an opportunity to promote the quality of their technical staff.



CERTIFICATION

- **Gives important and needed recognition to survey technicians; those who we trust with our license, our reputation and our daily well being and peace of mind.**

Legal Aspects

- **Certification does not license individuals to practice surveying. Professional surveying licensing is regulated by individual state boards of registration.**
- **This certification program is sponsored by NSPS and should not be confused with any other certification program.**

Seals and Stamps

- **No official seal or stamp for the CST Program**
- **No legal standing**
- **Appropriate recognition:**
 - **Signature**
 - **CST level**
 - **CST certificate number**
- **Ex. *Susan S. Smith, CST Computer II (0588-1234)***
- **Any improper use will result in revocation of certification and inability to continue in the CST Program**

Sample Business Card



Raymond "Buddy" Combs, CST III
Survey Party Chief
Office of Engineering & Architecture
Department of Capital Projects Management

**Washington Metropolitan Area
Transit Authority**

600 Fifth Street, NW
Washington, DC 20001
202/832-2999
Fax: 202/832-2995
eMail: rgcombs@wmata.com

Some Uses of the Program

- Recognized by the U.S. Department of Labor as a part of the **National Apprenticeship Program**.
- Registered **state apprenticeship program** in our area of the profession by private industry or state society.
- Validation/Assessment Exam by **educational programs**
- Working with **Military Credentialing Agencies** to establish Memoranda of Agreements. Allows members of the military to prepare for civilian certifications prior to leaving the service.

Who Uses the Program

Public Entities:

- Virginia State Board of Registration - FS exam
- Maryland Society of Surveyors
- Washington DC Metropolitan Area Transit Authority
- City of Orlando, FL
- City of Virginia Beach, VA
- Arizona and Minnesota DOTs
- Florida Surveying And Mapping Society, Tallahassee, FL
- Michigan Society of Professional Surveyors
Survey Technician Council
- Texas Society of Professional Surveyors
- Department of Public Works, Las Vegas, NV
- New Hampshire Land Surveyors Association
(pays 1/2 cost of exam if employer matches)
- District of Columbia Association of Land Surveyors
(1 yr of Associate Membership to those who pass)

Who Uses the Program

Private Entities:

- Dewberry, LLC, Fairfax, VA
- McKim & Creed, Wilmington, NC
- Woolpert, Arlington, VA
- Cherry Land Surveying, Nashville, TN
- E & A Consulting, Omaha, NE
- Miller Legg & Assoc., Pembroke Pines, FL
- Tri-State Engineering, Joplin, MO
- Clark Construction Company, Bethesda, MD
- Vincennes University, Vincennes, IN
- VIKA, Inc., Germantown, MD
- Christopher Consultants, Ltd, Fairfax, VA
- Doucette Survey, Newmarket, N.H.
- Charles P. Johnson & Associates, Inc., Silver Spring, MD
- Stantec North America
- Surveying and Mapping, Inc. TX

Benefits for Technicians

- **Recognition by Peers and Employers**
- **Personal Pride - Achieving Certification**
- **Pay – CST's make about 10% more**
- **Better qualified peers makes your job easier**
- **Career and Employment opportunities improve - “CST Preferred” and “CST Required”**
- **Prepares you for other professional exams**
- **CST Program compliments training**
- **Skills will improve – making advancement possible**
- **Certification improves image of survey technicians within the profession**

Benefits and Uses for Company

- Sets a standard for your technical staff
- Can be used as a hiring requirement
- Can be used as a marketing tool - incorporated in your QA/QC Program
- Can be used as a marking tool – “CST’s On Duty”
- Can be used as a career ladder which creates a promotional tool within your firm or agency
- Can be used in conjunction with training
- Raises the bar and creates healthy competition
- Better qualified staff – more production - more profit – you can pay your staff more – you can attract better staff – your job becomes easier
- Better qualified staff – less mistakes – reputation improves – more business

Benefits and Uses for Consumer

- Can be used as a contract requirement for Design Build and construction contracts.
- Can be used as a pre-qualification requirement in A/E procurement (Brook's Act).
- Can be used as a contract requirement for professional survey services contracts.
- Improves confidence in services procured.

Exam Formats/Rules

- All exams open book tests.
- Bound books. No loose notes.
- Level I, II and III are multiple choice exams.
- Level IV is take home, open book, essay exam, similar to a college level term paper.
- Exam formats: On-line or paper

Exam Formats/Rules

- **No computers, laptops or keyboard style hand-held computers are allowed at the exams site.**
- **Data collectors are not allowed.**
- **See Calculator policy in Program Book.**

A General Note About the Examinations

- **The exam is a challenging timed test. You must be prepared to move purposefully through four to six hours of testing.**
- **Study, review, and practice in the Work Element areas is important to prepare you for the questions and to be successful.**
- **These tests require a fair amount of computations.**

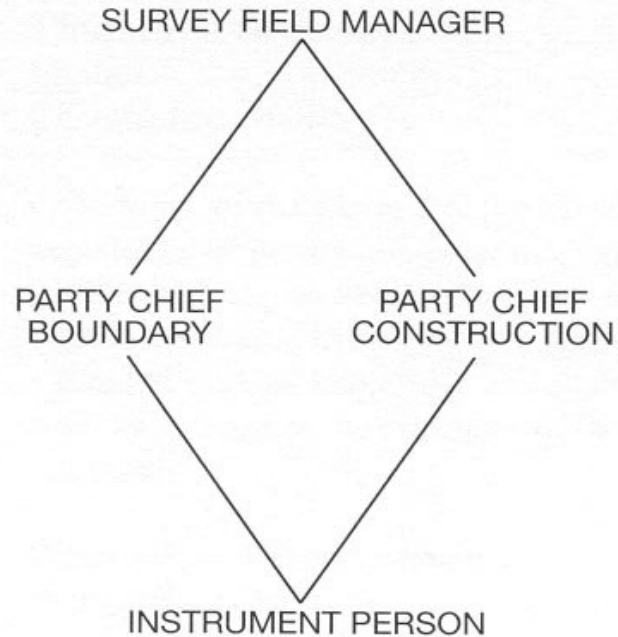
Be prepared

- **Study, Study, Study**
- **Research the Work Elements**
- **Practice taking the sample exams and solve as many survey questions as you can**
- **Get into testing shape**
- **See “Setting up a CST Training Program” Power Point for more information**

Don't forget to keep life in perspective



FIELD TRACK



LEVEL IV

MINIMUM
5.5 YRS.
TOTAL EXPERIENCE

LEVEL III

MINIMUM
3.5 YRS.
TOTAL EXPERIENCE

LEVEL II

MINIMUM
1.5 YRS.
TOTAL EXPERIENCE

LEVEL I

(ENTRY LEVEL)

OFFICE TRACK

SURVEY OFFICE MANAGER

CHIEF
COMPUTER
OPERATOR

COMPUTER
OPERATOR

Level I Exam

- **Entry level exam**
- **No minimum experience required**
- **The Level I exam has 200 questions**
- **Four hours allowed for the completion of the exam**
- **Exam budget 1.2 minutes per question or 50 questions per hour**

Level I Exam

Work Elements

Questions per Examination

1) Types of Surveys		10
2) Field Equipment & Instruments		41
3) Survey Computations		50
4) Control Points		6
5) Field Operations		21
6) Field Notes		5
7) Plan & Map Reading	17	
8) First Aid and Safety		20
9) Drafting/CAD		17
10) Electronic Instruments		8
11) Survey History		<u>5</u>
TOTAL QUESTIONS		200

Level II Exam

- **3000 hours, or 1.5 years of surveying experience required**
(up to 750 hours can be education = 1 year full-time with a minimum of 12 credit hours per term - 24 credit hours)
- **180 questions - multiple choice**
- **Six hours allowed for the completion of the exam**
- **Field Track Examination**
- **Office Track Examination**
- **Exam budget 2.0 minutes per question or 30 questions per hour**

Level II Exam

Questions per Examination

<u>Work Elements</u>		<u>Field</u>	<u>Office</u>
1) Types of Surveys		10	10
2) Field Equipment & Instruments	35	15	
3) Survey Computations	40	55	
4) Control Points		10	10
5) Field Operations		35	10
6) Field Notes		10	10
7) Plan Reading & Preparation		15	45
8) First Aid and Safety		15	15
9) Principles of the Profession		<u>10</u>	<u>10</u>
Total Questions		180	180

Level III Exam

- **7000 hours, or 3.5 years total of surveying experience required**
 - **Field Track:** 3000 hours (1.5 years) Level II experience plus 4000 hours (2.0 years) as a party chief required
 - **Office Track:** 3000 hours (1.5 years) Level II experience plus 4000 hours (2.0 years) as a chief computer operator required

(Up to 1750 hours can be **education** = 2.33 years, full-time with a minimum of 12 credit hours per term – 56 credit hours)

- **The Level III exam has 150 questions**
- **Six hours allowed for the completion of the exam**
- **Exam budget 2.4 minutes per question or 25 questions per hour**

Level III Exam

Questions per Examination

<u>Work Elements</u>		<u>Field Boundary</u>	<u>Field Construction</u>	<u>Off ice Computer</u>
1)	Types of Surveys	7	7	7
2)	Field Equipment & Instruments	34	34	11
3)	Survey Computations	21	21	21
4)	Control Points	8	8	8
5)	Field Operations	22 Bdy 8 Const.	8 Bdy 22 Const.	8
6)	Field Notes	7	7	7
7)	Plan Reading and Preparation	8	8	30
8)	First Aid and Safety	11	11	11
9)	Principles of the Profession	7	7	7
10)	Off ice Operations	7	7	30
11)	Supervisory Skills	<u>10</u>	<u>10</u>	<u>10</u>
TOTAL QUESTIONS		150	150	150

CST LEVEL III



Level IV Exam

- **Must hold a Level III certification** to take the Level IV exam
 - 11,000 hours, or 5.5 years total of surveying experience required.
 - **Field Track:** 7000 hours (3.5 years) Level II & III experience plus 4000 hours (2.0 years) as a party chief required.
 - **Office Track:** 7000 hours (3.5 years) Level II & III experience plus 4000 hours (2.0 years) as a chief computer operator required.
- (Up to 2750 hours can be education = 3.66 years, full-time with a minimum of 12 credit hours per term – 88 credit hours)

Level IV Exam

- **Two Questions**
- **A Formal Technical Report**
- **Two months to complete and return**
- **Typed, complete with research and supporting documentation**
- **Affidavit that the exam was completed by examinee**

Fees

All Test Levels

Examination Fee

**Student/Military
Individual**

**\$120.00
\$180.00**

Prices subject to change. Check www.nsps.us.com for updates

Testing Locations/Dates

- Currently tests are offered via special test sites across the country and online at arranged test sites with approved Proctors.
- Tests are given four times a year in quarterly cycles.
- It is also possible for college programs and professional organizations to arrange for special testing centers for groups. Special **discounts apply to groups** of 10 or more.

See NSPS CST web site at www.cst.com for current online testing schedule.

Examination Results

- **Graded in Four Cycles**

<u>Cycle</u>	<u>Test Results</u>
Cycle 1 (J F M)	end of May
Cycle 2 (A M J) August	end of
Cycle 3 (J A S) October	end of
Cycle 4 (O N D) February	end of

Online results are given immediately at the completion of the exam

Examination Results

- **Normal passing score 70%**
- **After failure three times, proof of appropriate continuing education required prior to fourth attempt**
- **Or you can step down one level and re-test**

Annual Renewal Fees

Annual Certification Renewal Fee \$40.00

Required for advancement in the CST Program

**After three years of non-renewal,
you MUST re-test to become certified again**

For more information

- **NSPS SURVEY TECH**
5119 Pegasus Court, Suite Q
Frederick, MD 21704
- **Or see NSPS CST web site at**
<http://www.cst.com>
- **Or call Sara Maggi at**
240-439-4615 x112
Fax: 240/439-4952
sara.maggi@nsps.us.com

Survey Technician Organization

- **Survey technicians seeking technical development through publications and educational opportunities may want to consider joining NSPS. NSPS also offers Educational programs, publications, and other member services.**
- **Membership in NSPS is not required for certification.**