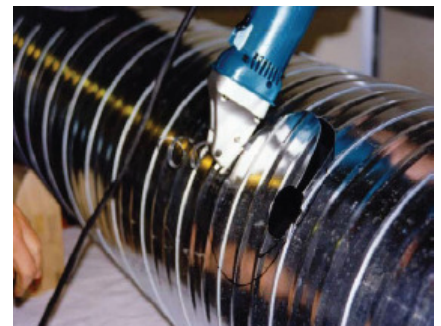
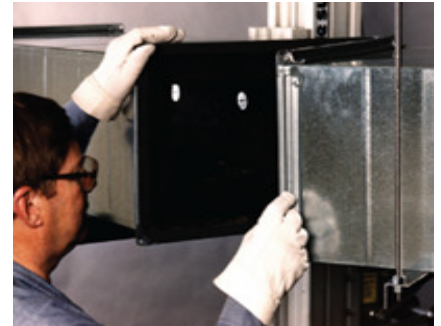
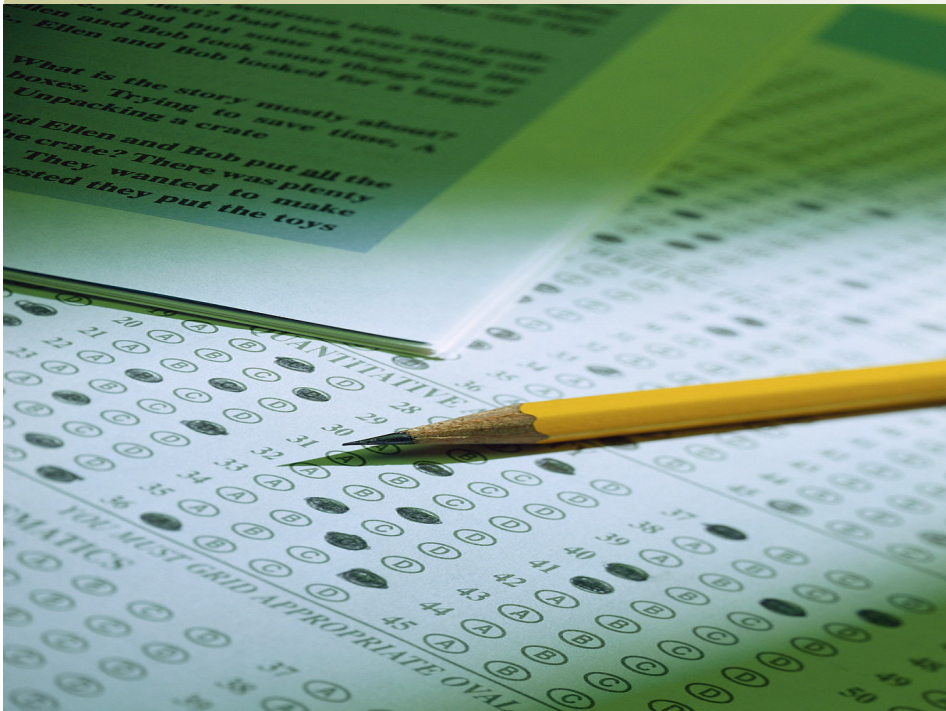


Air Systems Cleaning Specialist (ASCS)



Candidate's Guide 2016

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Disclaimer

NADCA has designed the ASCS Candidate's Guide as a guide to those pursuing ASCS Certification. No representations or warranties are made by NADCA that use of this guide or any other association publication will assure candidates of passing the ASCS exam.

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NADCA: The HVAC Inspection, Maintenance and Restoration Association, otherwise known as the National Air Duct Cleaners Association (NADCA), was formed in 1989 as a non-profit association of companies engaged in the cleaning of HVAC systems. Its mission was to promote source removal as the only acceptable method of cleaning and to establish industry standards for the association.

NADCA has expanded its mission to include the representation of qualified companies engaged in the inspection, maintenance and restoration of HVAC systems, and to assist its members in providing high quality service to their customers. The goal of the association is for its members to be the number one source for consumers and other entities seeking HVAC inspection, maintenance and restoration services, and air duct cleaning.

NADCA's membership continues to grow each year, along with its offering of training, education and certification. NADCA is comprised of a diverse group of HVAC industry professionals, including Air Systems Cleaning Specialists, mold remediators, and HVAC inspectors. The association has also published important standards and guidelines, educational materials, and other useful information for the consumer and members of NADCA.

Today, NADCA standards and certification are specified on a regular basis to ensure that HVAC systems are assessed, cleaned, and restored in a safe and efficient manner.

Overview of ASCS Certification



ASCS Certification

NADCA's ASCS certification was developed to recognize those industry professionals involved in the proper cleaning of HVAC systems. **An Air System Cleaning Specialist (ASCS) is qualified to serve as a project manager for residential and commercial HVAC cleaning and restoration projects. The ASCS certificate holder also qualifies as a Ventilation System Mold Remediator (VSMR).** Further, while not required, this individual is expected to possess the knowledge, skills and abilities of someone who has been performing this type of work for three years.

Benefits of ASCS certification

For Employees

This landmark certification enhances one's professional development and is also a world-wide credential recognizing a person's knowledge and skills related to HVAC system hygiene.

ASCS Certification can benefit you professionally in many ways, including:

- ✓ Increased compensation
- ✓ Enhanced career mobility and marketability
- ✓ Increased recognition to employers, customers and industry peers



For Employers

Today, many job specifications require that a certified ASCS be on a project. Having an ASCS certified technician on staff can benefit your company in many ways, including:

- ✓ Meeting bid specifications
- ✓ Attracting more customers
- ✓ Meeting the ASCS requirement for NADCA membership

Prerequisites for Becoming Certified

The ASCS Certification Exam is open to the public. There are no pre-requisites and anyone who wishes to obtain the ASCS credential can sit for the exam. However, it is recommended that a test taker have field experience and industry knowledge prior to taking the ASCS exam.

How to Become Certified

To obtain the ASCS certification, an individual is required to take and pass a multiple choice exam.

The exam is available through several different outlets, including NADCA testing centers, NADCA Annual Meeting, NADCA Technical Conference and NADCA International Summits.

⇒ Register & Pay for the Exam

Candidates must register and pay an exam fee. Individuals employed by a NADCA Member company will be able to register for the exam at a reduced rate.

⇒ Take & Pass the Exam

Candidates will need to take the exam at a proctored facility. This can be done at a Kryterion standardized testing center, or during a NADCA Conference. Should an individual fail the exam, he/she can retake the exam at a reduced rate.

The ASCS Exam



How was the ASCS certification developed?

As is customary with credentialing practices, NADCA performed a job analysis on the ASCS certification to be sure the credential reflects the most current practices in the industry and properly reflects an individual's scope of work in cleaning and restoring HVAC systems. One finding from the ASCS Job Analysis project is that, in today's industry, individuals who clean and restore HVAC systems are often required to address issues related to microbial contamination. As a result, the ASCS certification has been updated to include the Ventilation System Mold Remediator (VSMR) certification.

Length of the Exam

The examination consists of 150 multiple choice questions. Candidates will have 3 ½ hours to complete the exam.

Exam Delivery

⇒ Kryterion Standardized Testing Centers

The ASCS Exam is available at standardized testing centers around the globe. Registration can be done online and you can find available testing locations, dates and times at www.nadcatesting.com. If you go through the motions as if you were purchasing the exam, the information will display before any transactions take place.

⇒ NADCA Conferences

The ASCS Exam is also administered during NADCA's Annual Meeting, Technical Conference and International Summits. More details and registration information can be found on NADCA's website: www.nadca.com.

Exam Fees

ASCS Exam Fees	NADCA Member	Non-Member
ASCS Exam at Testing Center	\$385	\$1610
ASCS Exam Retake	\$100	\$885
ASCS Exam at NADCA Event	\$275	\$1500

Exam Retake Policy

Should an individual fail the exam, he/she can retake the exam at a reduced rate. Candidates must contact NADCA headquarters to schedule their retake exam.

Examination Content

The content of the exam is based on a scientific survey of NADCA members, certificant holders, and industry professionals who engage in the practice of HVAC system inspection, cleaning and restoration. This survey evaluated the relative importance of the knowledge and skills that comprise the practice of performing an HVAC system cleaning project for all building classifications. The content areas tested, and their relative emphases are provided in the examination content outline listed below.

The ASCS certification exam is organized into seven domains. The content outline domain weights represent approximate percentages for content distribution.

Domain	Percentage % of Questions
I. Understand the Necessity for Cleaning	5.0%
II. Understand Mechanical Systems	15.0%
III. Perform HVAC System Inspections	12.0%
IV. Understand Contamination	12.0%
V. Understand HVAC Cleaning and Restoration Procedures	42.0%
VI. Protect the Health & Safety of Employees and Building Occupants	6.0%
VII. Understand Standards and Guidelines	8.0%

ASCS Exam Content Outline

I. Understand the Necessity for Cleaning

- A. Demonstrate knowledge of improved indoor air quality
- B. Demonstrate knowledge of energy savings
- C. Demonstrate knowledge of increased lifespan of system
- D. Manage customer expectations

II. Understand Mechanical Systems

- A. Demonstrate knowledge of HVAC system design (Types of systems)
- B. Demonstrate knowledge of HVAC system components & Elements (Coils, ductwork, etc...)

III. Perform HVAC System Inspection

- A. Disclose any conflicts of interest
- B. Assess the HVAC system condition
- C. Conduct visual inspections
- D. Identify problem conditions and plan of action

IV. Understand Contamination

- A. Causes of contamination to the HVAC system
- B. Contamination agents (Types, sizes)
- C. Exposure effects

V. Understand HVAC Cleaning and Restoration Procedures

- A. Perform project assessment
- B. Define the scope of work (Select equipment, products and methods)
- C. Clean and restore the HVAC system (Access, engineering controls)
- D. Validation

VI. Protect the Health and Safety of Employees and Building Occupants

- A. Adhere to federal regulations and laws
- B. Protect the job site
- C. Understand risk management

VII. Understand Standards and Guidelines

- A. National Air Duct Cleaners Association (NADCA)
- B. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA)
- C. North American Insulation Manufacturers Association (NAIMA)
- D. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE)
- E. The Institute of Inspection, Cleaning and Restoration Certification (IICRC)
- F. National Fire Protection Association (NFPA)
- G. Air Conditioning Contractors of America (ACCA)

Examination Acronyms

The following is an approved list of acronyms that are commonly used in the ASCS exam. Please review the list and familiarize yourself with these acronyms prior to taking the exam.

Acronym	Expansion
ACCA	Air Conditioning Contractors of America
AFD	Air Filtration Device
AHU	Air Handling Unit
AIHA	American Industrial Hygiene Association
ANSI	American National Standards Institute
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASTM	American Society for Testing and Materials
US EPA	US Environmental Protection Agency
FPM	Feet Per Minute
HEPA	High Efficiency Particulate Arrestance
HVAC	Heating Ventilation Air Conditioning
IAQ	Indoor Air Quality
IEP	Indoor Environmental Professional
IICRC	Institute of Inspection Cleaning and Restoration Certification
IWC	Inches of Water Column
MUA	Make Up Air
NADCA	National Air Duct Cleaners Association
NAIMA	North American Insulation Manufacturers Association
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
RPM	Revolutions per Minute
SMACNA	Sheet Metal & Air Conditioning Contractors' National Association
SDS/MSDS	Safety Data Sheet/Material Safety Data Sheet
UV	Ultraviolet
VAV	Variable Air Volume
VOC	Volatile Organic Compounds
WC	Water Column

Preparing for the ASCS Exam



How to Prepare for the ASCS Exam

The ASCS examination tests the knowledge and skills needed to become successful in the HVAC inspection, maintenance and restoration industry. The exam covers a range of topics, including indoor air quality, safety, mechanical, field experience, and the ability to correctly apply practical knowledge.

Disclaimer

No one single publication, training course or reference guide will give you all the information you need to prepare for the ASCS exam. It is strongly recommended that prior to taking the exam, test takers review the recommended reading materials listed in this Guide that were used as references during the development of the ASCS certification exam.

Step 1: Review the ASCS Candidates Guide

The first step in preparing for the ASCS Exam is to review this ASCS Candidates Guide in its entirety, including the exam content outline and recommended reading list included in this Guide.

Step 2: Study

There are a variety of optional recommended study materials and training opportunities available to help you prepare for the ASCS exam, including the following:

Online Training

Ventilation Maintenance Technician (VMT) Course:

Member Cost - \$175 / Non-Member Cost - \$1,500

VMT training is available online and includes 5 training modules covering the basics of HVAC system cleaning.

ASCS Online Training Course:

Member Cost - \$395 / Non-Member Cost - \$595

The ASCS Online course is available online 24 hours a day, 7 days a week and includes four training modules: Assessing Problems, Assessing Mechanical Systems, Health & Safety & Performing the Cleaning.

Classroom Training

NADCA's ASCS to the ACR Standard Course is a valuable resource in preparing for certification. This class is offered at the NADCA Annual Meeting, NADCA Technical Conference & NADCA International Summits. The ASCS exam is typically administered on the morning following completion of the course.

Self-Study

NADCA's ASCS to the ACR Standard Resource Manual is available for those who wish to study reference materials on their own. DO NOT order this manual if you have registered for the ASCS Online Course or the ASCS to the ACR Standard Course, as these materials are provided upon registration for those courses. The ASCS to the ACR Standard Resource Manual includes the following documents:

ASCS Candidates Guide
NADCA ACR Standard
ASCS to the ACR Standard Manual
& Course Presentation

Introduction to HVAC System Cleaning Services
NADCA HVAC Inspection Manual
NADCA Safety Manual
NADCA White Paper on Chemical Applications in HVAC Systems

Recommended Reading



HVAC inspection, maintenance and restoration professionals are encouraged to invest in and maintain a library of industry reference materials. The following is a list of reference materials published by NADCA and used during development of the Air Systems Cleaning Specialist (ASCS) certification exam.

Disclaimer

No one single publication, training course or reference guide will give you all the information you need to prepare for the ASCS exam. It is strongly recommended that prior to taking the exam, test takers review the recommended reference materials listed below that were used in the development of the ASCS certification exam.

NADCA Reference Materials

Reference Document	Particular Areas of Focus	Source	Domain Areas
ACR, The NADCA Standard for Assessment, Cleaning & Restoration of HVAC Systems	Entire Document (including definitions)	ASCS Resource Manual	I, II, III, IV, V, VI, VII
NADCA ASCS to the ACR Standard Manual & Training Course Handouts	Entire Document	ASCS Resource Manual	I, II, III, IV, V, VI, VII
NADCA Introduction to HVAC System Cleaning Services	pg. 3 (Indoor Air Quality) pg. 6 (Site Preparation) pg. 8 (Building Fire Safety & Security), (Cleaning Equipment Condition) pg.12 (Cleaning Methodologies) pg.13 (Contact Vacuuming) pg.14 (Break Down & Clean Up)	ASCS Resource Manual	III, IV, V, VI
NADCA HVAC Inspection Manual	pg. 13 (Multi-Zone Systems) pg. 16 (Fan Coil Units) pg. 18 (Heating, Cooling & Reheat Coils) pg. 24 (Fire & Smoke Dampers) pg. 25 (Fans & Blowers) pg. 28 (VAV Boxes) pg. 30 (Sound Attenuators) pg. 78 (Example Recommendations)	ASCS Resource Manual	I, II, III, IV
NADCA Safety Manual	pg. 49 (Confined Space) pg. 205 (Portable Electric Tools) pg. 278 (Lockout/Tagout) pg. 332 (Respiratory Protection)	ASCS Resource Manual	IV, V, VI
NADCA White Paper on Chemical Applications in HVAC Systems	Entire Document	ASCS Resource Manual	V, VI

Recommended Reading



HVAC inspection, maintenance and restoration professionals are encouraged to invest in and maintain a library of industry reference materials. The following is a list of reference materials used during development of the Air Systems Cleaning Specialist (ASCS) certification exam.

Disclaimer

No one single publication, training course or reference guide will give you all the information you need to prepare for the ASCS exam. It is strongly recommended that prior to taking the exam, test takers review the recommended reference materials listed below that were used in the development of the ASCS certification exam.

Additional Industry Reference Materials*

Reference Document	Source	Domain Areas
U.S. Environmental Protection Agency: <i>"Mold Remediation in Schools and Commercial Buildings"</i>	https://www.epa.gov/mold/mold-remediation-schools-and-commercial-buildings-guide	IV
IICRC Standard S520 – <i>Standard and Reference Guide for Professional Mold Remediation</i>	http://iicrc.org/standards/iicrc-s520/	III, IV, VII
NAIMA – <i>Cleaning Fibrous Glass Insulated Air Duct Systems (AH-122)</i>	http://insulationinstitute.org/tools-resources/resource-library/air-handling-duct-work/	VII
NFPA 90A – <i>Standard for the Installation of Air-Conditioning & Ventilation Systems</i>	http://www.nfpa.org/catalog/product.asp?pid=90A12A&cookie_test=1	VII
Occupational Safety & Health Administration – <i>A Brief Guide to Mold in the Workplace</i>	https://www.osha.gov/dts/shib/shib101003.html	VI

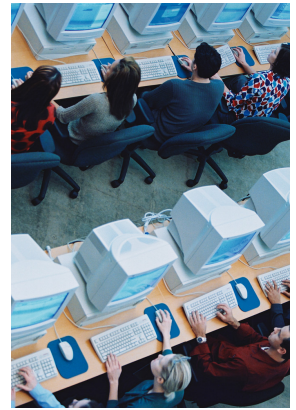
*Some of the information from these industry reference materials used for development of the ASCS exam is also highlighted in the ASCS to the ACR Standard Course Materials.

Registering for the ASCS Exam



NADCA Testing Centers

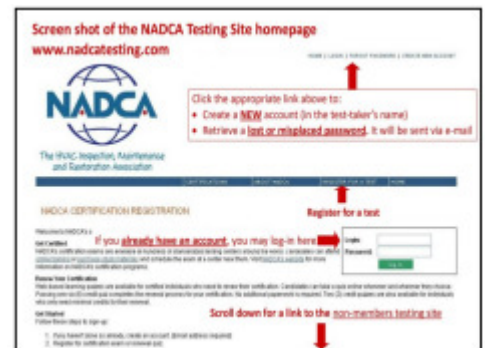
The ASCS exam is available at testing centers throughout the world. The ASCS exam is not available online for first-time test takers or those who have let their ASCS certification lapse. (However, individuals who already hold the ASCS certification may renew it through online renewal quizzes.)



Candidates taking the ASCS exam at a testing center must follow these steps:

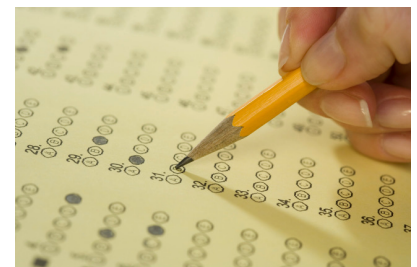
If the Member Promo Package application has been submitted, you must still create an account in the test-taker's name, and the ASCS exam must be scheduled by a member of the NADCA staff. Contact NADCA to schedule the exam when the account has been created.

- Visit the NADCA Testing Site here: <http://www.nadcatesting.com>.
- In the top right-hand corner of the page, click "Create a New Account."
- Fill out the company information. This section requires a "Member Security Code," which is provided upon submission of the NADCA member application. If you have lost/misplaced the "Member Security Code," please call NADCA at 855-GO NADCA (466-2322).
- The blue bar across the middle of the NADCA Testing Site includes an option to "Register for a Test." Click this link to see all NADCA testing options. Choose the ASCS Exam by clicking the orange "Buy Now" box (\$385). This will open a page with testing center search options.
- For candidates with a non-member company, the ASCS exam must be scheduled in the non-member area of the NADCA Testing Site. This link is at the bottom of the testing site homepage.
- Unless the Member Promo Package application has been submitted, payment must be made through the testing site with a valid Visa, MasterCard or American Express.



Taking the ASCS Exam at a NADCA Event

NADCA offers the ASCS exam at the Annual Meeting, Technical Conference & International Summits. More detail is included in the registration brochures for each event which are published at www.nadca.com.



Maintaining ASCS Certification



Candidates who successfully pass the ASCS exam will be required to renew the certification by June 30 each year. Candidates will renew by obtaining 6 continuing education credits (CECs) and submitting a renewal fee.

When do I need to renew my certification?

ASCS certification is renewable each year by June 30. Please note that it is your responsibility as an ASCS to maintain certification and apply for certification renewal in advance of the deadline. Certification is valid until the expiration date listed on your certificate.

Any individual who passes the ASCS certification exam within the period of July 1 – February 28 will be provided with a certificate expiration date of June 30 within the year of the upcoming renewal period. Any individual who passes the ASCS certification exam within the period of March 1 – June 30, will be provided with a certificate expiration date of June 30 of the following renewal year.

How much does it cost to renew my certification?

There is an annual maintenance fee (**\$85 for members, \$910 for non-members**) associated with certification renewal.

How do I renew my certification?

NADCA requires certified individuals to have **6 (six) Continuing Education Credits (CECs)** each year in order to be eligible for renewal. Individuals who do not accrue sufficient continuing education credits prior to their renewal date are required to re-take the examination at the regular fees.

The certification year runs from July 1 to June 30, and credits for renewal must have been earned during that timeframe. For instance, if six credits were obtained in May 2013, they would count toward renewing the ASCS for the 2013-2014 year. If six credits were obtained in December 2013, they would count toward renewing the ASCS for the 2014-2015 year.

How can I obtain CEC credits?

CECs can be obtained in a variety of ways including the following:

- Attendance at NADCA's Annual Meeting*, Technical Conference and International Summits
- Other approved HVAC industry related training and events
- Online renewal quizzes via www.nadcatesting.com
- NADCA webinars & online training

*Attending NADCA's Annual Meeting provides access to the **CEC Training Program**, which is a convenient, cost-effective way for companies with multiple ASCS certified personnel to help them obtain their 6 CECs. Annual Meeting attendees receive CEC-designated presentations that can be used to take back to their office and train any ASCSs within the company who did not attend the event. An affidavit must be signed and returned to NADCA, stating that the presentation materials were covered in-depth so that 6 CECs can be awarded.

Approved CECs

A listing of approved programs for Continuing Education Credits can be found at www.nadca.com. If you attend other HVAC industry related training or events, you will need to complete and submit a **CEC Request for Approval** form with documentation to see if the training meets NADCA's qualifications for approved CECs.

Frequently Asked Questions



Is there a practice exam I can take to help prepare?

Yes, you will find a short practice test to familiarize you with how typical exam questions are structured. The practice test is available on www.nadca.com under the ASCS Certification tab.

Are the ASCS exam questions based solely on the NADCA ACR Standard?

While the ACR Standard is a key reference used in developing the ASCS exam, no one single publication, training course or reference guide will give you all the information you need to prepare for the exam. It is strongly recommended that prior to taking the exam, candidates review the recommended reading list in this Guide, as those references were used during the development of the ASCS certification exam.

Can I see what questions I answered incorrectly on the exam?

Test takers will not be provided with questions that they answered incorrectly. This would compromise the confidentiality and integrity of the exam. However, test takers will receive their percentage scores within each topic area which can help them determine if there are particular topic areas they need to improve if they do not pass the exam and need to retake it.

Can I call a testing center directly to schedule my exam?

No, registration must be done through the online testing system at www.nadcatesting.com.

What should I do if I need to reschedule my exam?

If you need to reschedule your exam, you must contact NADCA staff to assist you with the reschedule. Please note that if you reschedule an exam within 72 hours of the scheduled exam time you will be required to pay an \$80 rescheduling fee.

What is the member security code for www.nadcatesting.com?

If you are employed by a NADCA member company, you can register for exams at www.nadcatesting.com. This will require you to enter a "Member Security Code," which is provided upon submission of the NADCA member application. If you have lost/misplaced the "Member Security Code," please call NADCA at 855-GO NADCA (466-2322). If you are employed by a non-member company you may register for exams at the non-member link listed at the bottom of the www.nadcatesting.com homepage.

What if I have a learning disability and/or impairment that makes it difficult for me to take an exam?

If a candidate has a learning disability or impairment that makes it difficult for them to take the exam, they can contact NADCA to schedule a special accommodation exam if applicable.

Is the exam available in multiple languages?

The ASCS Exam is available in English, Spanish and French Canadian.

Once I pass the exam, how long will it take for me to get my ASCS certificate?

It takes typically 4-6 weeks after passing the exam for certified individuals to receive their ASCS certificate.

Is the individual or the business ASCS certified?

NADCA's certification program certifies individuals, not companies. Certified individuals may use the credential in marketing their own expertise. Certification is not transferable to other individuals. Any certified individual who changes companies must pay a \$300 administrative transfer fee and complete an ASCS Transfer Form.

**For more information about the ASCS Certification, please contact
NADCA Headquarters via info@nadca.com.**