



***CANDIDATE INFORMATION  
BULLETIN for CERTIFICATION EXAMINATIONS***

- ✓ **STAR HVACR**
- ✓ **STAR Fire Sprinklerfitting**
- ✓ **STAR Steamfitting/Pipefitting**
- ✓ **STAR Plumbing**
- ✓ **STAR Residential-Light  
Commercial HVAC**
- ✓ **STAR Residential-Light  
Commercial Service Technician**
- ✓ **STAR Commercial Refrigeration**



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## I. GENERAL INFORMATION

### ABOUT STAR MASTERY CERTIFICATION PROGRAM

For many years the certification of personnel in the skilled trades was voluntary except where required by an employer or by the local jurisdiction. However, new government and industry requirements continue to emerge asking such personnel to document their qualifications through written examination and/or practical testing. NITC provides personnel certification which meets this need while holding to the highest standards of modern test practice.

Our STAR Mastery certification program is nationally recognized and is the result of years of effort by industry experts. The subject matter experts who participated in the development our certifications have thousands of hours of experience in their field. The goal of these experts is improving the safety of those who come into contact as either industry workers, or as a consumer.

### EXAMINATION DEVELOPMENT

The first step in the development of an objective test is to identify the knowledge necessary for the certification holder. This knowledge was identified by a team of industry experts assembled by The Technology Transfer Center at Ferris State University. The DACUM process of Job and Task Analysis was employed to develop the examination blueprint which became the basis for the content of this examination. The passing scores were also determined by these subject matter experts using psychometrically accepted standard-setting methodology.

### HOW TO OBTAIN THE NITC PROCEDURES DOCUMENT

The STAR Certification is governed by the [NITC's Rules and Procedures Manual](#). This document goes into greater detail on a number of the topics covered in this examination information bulletin. Topics covered include:

- Statement of Purpose
- About NITC
- Certifications Administered by NITC
- Scope of Examinations
- Basis of Examination Construction, Validation and Security
- Maintaining and Upgrading Examinations
- Application Procedures
- Examination Fees
- Examination Process
- Examination Scheduling for Groups

- Computer-Based Testing at Prometric Test Center Information
- Examination Site Information
- Examination Score
- Information Release Policy
- Issuance of Certification Cards and Wall Certificates
- Requirements for Maintaining Certification
- Correction of Material and/or Technical Errors in Examinations
- Notification to Certified Personnel and Stakeholders of Updated Certifications and New Certifications
- Recertification: (Maintenance of Certification)
- Exam Questions Challenges, Appeals Procedure, Complaints
- Guidelines for Use of Certification Mark
- NITC Policy and Guidelines for Testing Persons with Disabilities
- Proctor Responsibilities
- Conflict of Interest and Confidentiality Statements
- Reissuance of Lost Certification Cards
- NITC No-Show, Cancellation, and Refund Policy
- NITC Certification Scheme Committee

Copies of [NITC's Rules and Procedures](http://www.nationalitc.com) are available on the NITC website at [www.nationalitc.com](http://www.nationalitc.com) and also upon request from NITC Headquarters.

**Important note to examination candidates:**

*The information contained in this document is important. Please read it carefully.*

## II. STAR HVACR MASTERY

### SCOPE OF WORK: STAR HVACR MASTERY

A STAR HVACR Mastery certification candidate is a qualified individual who can demonstrate mastery of the trade and will be skilled and experienced in operations, planning, blueprint reading, safety, and the practical installation, repair, and service of HVACR systems.

Installation, repair, and service of HVACR systems includes the design, construction, installation, alteration(retrofit), repair, service and maintenance of all boilers, HVAC air handling systems, ductwork systems, refrigeration piping systems, process piping heating and cooling systems in residential, commercial and industrial settings.

A qualified Master Mechanic may perform these tasks alone, or through the supervision of other individuals.

It is expected that the STAR HVACR Mastery examination candidate is a technician who has completed a UA training program or equivalent, and/or has five years of experience in the industry.

### EXAMINATION QUALIFICATION REQUIREMENTS

Candidates must provide five (5) years of documented work experience installing and servicing HVACR equipment and piping systems or provide documentation of being in the fifth (5<sup>th</sup>) year of a HVACR training program involving the installation and servicing of HVACR equipment and piping systems.

### ABOUT THE EXAMINATION

The STAR HVACR Mastery examination is comprehensive. It is designed to test the knowledge of the experienced technician. It is not realistic to expect that inexperienced technicians will be able to pass this examination based solely on the information contained in UA textbooks. It is recognized that even the best technician does not work in all areas of the service industry. Further, some knowledge can be forgotten through lack of use. As such, it is recommended that the candidate study a number of UA textbooks in preparing for the STAR examination. For those who do not have access to UA training materials; HVACR manuals that are available through industry sources can serve as references for this examination. Please refer to the list of subject matters covered when identifying appropriate reference materials, manuals, or training guides.

A content outline is provided below as an aid in preparing for the examination.

**Description:** Closed book examination consisting of 200 multiple-choice questions

**Passing grade:** 82 % (164 correct)

**Total time allowed:** Two and one half (2 ½) hours

<b>Percent of Examination</b>	<b>Domain Area</b>
11%	Mechanical Principles
8%	Electrical Principles
13%	Controls
17%	Air Conditioning & Refrigeration
10%	Heating
9%	Hydronics
7%	Steam System
9%	Ventilation
6%	Piping
2%	Lifting Equipment
5%	Safety & Environmental
4%	Applied Mathematics and Blueprint Reading
3%	Customer Service

An NITC-approved proctor administers the multiple-choice examination. Candidates are notified of a pass or fail result in writing by NITC, the training agency, or by the association that requested the examination.

Candidates failing to achieve a passing score will be eligible for re-examination as soon as the next examination is scheduled. Candidates may re-take their examination at the NITC offices or at a Prometric Test Center.

## RECERTIFYING YOUR STAR HVACR MASTERY CERTIFICATION

This certification is valid for five (5) years from issuance. Recertification can be accomplished by successfully passing a fifty (50) question, **proctored** multiple choice “open book” examination. UA textbook or HVACR manuals that are available through industry sources can serve as references for this examination. Candidates must answer forty (40) of the questions (80%) correctly on the examination to achieve a passing grade. Two (2) hours are allowed for the examination.

The recertification examination may be taken computer-based at any Prometric Test Center. Additional Information on locations and how to register is provided in a recertification letter sent out by NITC approximately three months prior to expiration of the certification.

Information on how to schedule a group for a proctored examination is contained in [NITC's Rules and Procedures.](#)”

### **Important note about recertification:**

*Certification holders are responsible for keeping their certification current. NITC must be notified of any change in address. Changes may be made online, by telephone, or by mail.*

NITC **strongly suggests** sitting for the recertification exam within three months of the expiration date. Be aware that while a “grace period” of up to 90 days after the date of expiration is extended by NITC, individuals **must** allow for the required 21 days for exam processing before the “grace period expires”. **NO EXCEPTIONS.** The individual whose certification has expired is not certified during the grace period. **EXPIRED MEANS EXPIRED.** Failure to recertify within 90 days of the certification expiration date will require the individual to take the original examination.

For fees see the [Certification Examination Price List.](#)

### III. STAR FIRE SPRINKLERFITTING MASTERY

#### **SCOPE OF WORK: STAR FIRE SPRINKLERFITTING MASTERY**

A STAR Fire Sprinklerfitting Mastery certification candidate is a qualified individual who can demonstrate mastery of the trade and will be skilled and experienced in operations, planning, blueprint reading, safety, and the practical installation, repair, and servicing of fire sprinkler systems.

Installation repair and service of fire sprinkler systems includes the design, installation, alteration (retrofit), repair, service and maintenance of fire sprinkler water supply systems and all system components; spacing, location, and positioning of sprinklers for wet pipe, dry pipe, reaction and deluge systems, and specialty systems in residential, commercial and industrial settings.

A qualified Master Fire Sprinklerfitter may perform these tasks alone, or through the supervision of other individuals.

It is expected that the STAR Mastery test candidate is a technician who has completed a UA training program or equivalent, and/or has five years of experience in the industry.

#### **EXAMINATION QUALIFICATION REQUIREMENTS**

Candidates must provide five (5) years of documented work experience installing and servicing of fire sprinkler systems or provide documentation of being in the fifth (5<sup>th</sup>) year of a fire sprinkler training program involving the installation and servicing of fire sprinkler systems.

#### **ABOUT THE EXAMINATION**

Most of the content of this exam is based on the following NFPA documents and examinees will be permitted to bring these documents, as reference material, to the place of the exam.

- 2019 edition, NFPA 13, 13D, 13R
- 2019 edition, NFPA 14
- 2019 edition, NFPA 20
- 2018 edition, NFPA 22
- 2018 edition, NFPA 2001
- 2020 edition, NFPA 25

A good understanding of these NFPA documents is necessary for passage of this exam. The examinee should be thoroughly familiar with the code language found in them and should be prepared to answer specific questions based on their content.

It is designed to test the knowledge of the experienced technician. It is not realistic to expect that inexperienced technicians will be able to pass this examination based solely on the information contained in the NFPA references. The exam may also cover knowledge not contained in the NFPA manuals.



A content outline is provided below as an aid in preparing for the exam.

**Description:** Open book exam consisting of 200 multiple-choice questions

**Passing grade:** 70.00% (140 correct)

**Total time allowed:** Three (3) hours

Percent of Examination	Domain Area
11%	Water Supply Systems
22.5%	System Components & Installation
18%	Spacing, Location and Positioning of Sprinklers
7.5%	Wet-Pipe Systems
8%	Dry-Pipe Systems
3.5%	Preaction and Deluge System
5%	Specialty System
14.5%	Inspections, Testing & Maintenance
10%	General Knowledge

An NITC-approved proctor administers the multiple-choice examination. Candidates are notified of a pass or fail result in writing by NITC, the training agency, or by the association that requested the examination.

Candidates failing to achieve a passing score will be eligible for re-examination as soon as the next examination is scheduled. Candidates may re-take their examination at the NITC offices or at a Prometric Test Center.

## RECERTIFYING YOUR STAR FIRE SPRINKLERFITTING MASTERY CERTIFICATION

This certification is valid for five (5) years from issuance. Recertification can be accomplished by successfully passing a fifty (50) question, proctored, multiple choice, “open-book” examination. Candidates must answer thirty-five (35) of the questions (70%) correctly on the examination to achieve a passing grade. Two (2) hours are allowed for the examination. Examinees are permitted to use the following documents as reference materials during the examination.

- 2019 edition, NFPA 13, 13D, 13R
- 2019 edition, NFPA 14
- 2019 edition, NFPA 20
- 2018 edition, NFPA 22
- 2018 edition, NFPA 2001
- 2020 edition, NFPA 25

The recertification examination may be taken computer-based at any Prometric Test Center. Additional Information on locations and how to register is provided in a recertification letter sent out by NITC approximately three months prior to expiration of the certification.

Information on how to schedule a group for a proctored examination is contained in [NITC's Rules and Procedures.](#)”

### Important note about recertification:

*Certification holders are responsible for keeping their certification current. NITC must be notified of any change in address. Changes may be made online, by telephone, or by mail.*

NITC **strongly suggests** sitting for the recertification exam within three months of the expiration date. Be aware that while a “grace period” of up to 90 days after the date of expiration is extended by NITC, individuals **must** allow for the required 21 days for exam processing before the “grace period expires”. **NO EXCEPTIONS.** The individual whose certification has expired is not certified during the grace period. **EXPIRED MEANS EXPIRED.** Failure to recertify within 90 days of the certification expiration date will require the individual to take the original examination.

For fees see the [Certification Examination Price List.](#)

## IV. STAR STEAMFITTING/PIPEFITTING MASTERY

### SCOPE OF WORK: STAR STEAMFITTING/PIPEFITTING MASTERY

A STAR Pipefitting Mastery certification candidate is a qualified individual who can demonstrate mastery of the trade and will be skilled and experienced in fabricating, preparing, rigging and installing pipes, tubing and equipment by following plans, specifications, SOP's and standard pipefitting practices in order to comply with local and jurisdictional codes and help to complete the job/project safely, on schedule and to the satisfaction of the customer.

A qualified pipefitter may perform these tasks alone, or through the supervision of other individuals.

It is expected that the STAR Steamfitting/Pipefitting Mastery examination candidate is a technician who has completed a UA training program or equivalent, and/or has five years of experience in the industry.

### EXAMINATION QUALIFICATION REQUIREMENTS

Candidates must provide five (5) years of documented work experience installing and servicing of piping systems or provide documentation of being in the fifth (5<sup>th</sup>) year of a piping systems training program involving the installation and servicing of piping systems.

### ABOUT THE EXAMINATION

The STAR Pipefitting Mastery examination is comprehensive. It is designed to test the knowledge of the experienced pipefitter. It is not realistic to expect that inexperienced pipefitters will be able to pass this examination based solely on the information contained in UA textbooks. It is recognized that even the best pipefitter does not work in all areas of the service industry. Further, some knowledge can be forgotten through lack of use. As such, it is recommended that the candidate study a number of UA textbooks in preparing for the STAR exam. For those who do not have access to UA training materials, pipefitting manuals that are available through industry sources can serve as references for this exam. Please refer to the list of subject matters covered when identifying appropriate reference materials, manuals, or training guides.

The subject matter covered in the examination is provided here in outline form as an aid in preparing for the exam.

**Description:** Closed book exam consisting of 200 multiple-choice questions

**Passing grade:** 82% (164 correct)

**Total time allowed:** Two and one half (2 ½) hours

<b>Percent of Exam</b>	<b>Domain Area</b>
12.5%	Blueprint Reading
4.5%	Hydronic
6.5%	Instrumentation/Pneumatic Controls
21.5%	Math/Measure/Science
19.5%	Piping & Tubing
3%	Pumps
3.5%	Refrigeration/AC
7%	Rigging
6.5%	Safety
6.5%	Steam Systems
9%	Welding

An NITC-approved proctor administers this examination. Candidates are notified of a pass or fail result in writing by NITC, the training agency, or by the association that requested the examination.

Candidates failing to achieve a passing score will be eligible for re-examination as soon as the next examination is scheduled. Candidates may re-take their examination at the NITC offices or at a Prometric Test Center.



## RECERTIFYING YOUR STAR STEAMFITTING/PIPEFITTING MASTERY CERTIFICATION

This certification is valid for five (5) years from issuance. Recertification of this certification can be accomplished by successfully passing a fifty (50) question, non-proctored, multiple choice “open book” examination within ninety days of the expiration date of certification. Candidates must answer thirty-seven (37) of the questions (74%) correctly on the exam to achieve a passing grade. Four hours are allowed for the examination.

The recertification test can be taken:

The recertification examination may be taken computer-based. Additional Information on how to register is provided in a recertification letter sent out by NITC approximately three months prior to expiration of the certification.

### **Important note about recertification:**

*Certification holders are responsible for keeping their certification current. NITC must be notified of any change in address. Changes may be made online, by telephone, or by mail.*

NITC **strongly suggests** sitting for the recertification exam within three months of the expiration date. Be aware that while a “grace period” of up to 90 days after the date of expiration is extended by NITC, individuals **must** allow for the required 21 days for exam processing before the “grace period expires”. **NO EXCEPTIONS.** The individual whose certification has expired is not certified during the grace period. **EXPIRED MEANS EXPIRED.** Failure to recertify within 90 days of the certification expiration date will require the individual to take the original examination.

For fees see the [Certification Examination Price List](#).

## V. STAR PLUMBING MASTERY

### SCOPE OF WORK: STAR PLUMBING MASTERY

A STAR Plumbing Mastery certification candidate is a qualified individual who can demonstrate mastery of the trade and will be skilled and experienced in the design, installation, maintaining, servicing, and repairing water systems; drainage, waste, and vent systems; storm water systems; fuel gas systems; water heating systems; and specialty systems, utilizing knowledge of national, state, and local plumbing codes to protect the health and welfare of the general public.

A qualified plumber may perform these tasks alone, or through the supervision of other individuals.

It is expected that the STAR Plumbing Mastery examination candidate is a plumber who has completed a UA training program or equivalent, and/or has five years of experience in the industry.

### EXAMINATION QUALIFICATION REQUIREMENTS

Candidates must provide five (5) years of documented work experience installing and servicing of plumbing systems or provide documentation of being in the fifth (5<sup>th</sup>) year of a plumbing training program involving the installation and servicing of plumbing systems.

### ABOUT THE EXAMINATION

The STAR Plumbing Mastery examination is comprehensive. It is designed to test the knowledge of the experienced plumber. It is not realistic to expect that inexperienced plumbers will be able to pass this examination based solely on the information contained in UA textbooks. It is recognized that even the best plumber does not work in all areas of the service industry. Further, some knowledge can be forgotten through lack of use. As such, it is recommended that the candidate study a number of UA textbooks in preparing for the STAR exam. A list is provided on the following page. For those who do not have access to UA training materials, plumbing manuals that are available through industry sources can serve as references for this exam. Please refer to the list of subject matters covered when identifying appropriate reference materials, manuals, or training guides.

The subject matter covered in the examination is provided here in outline form as an aid in preparing for the exam.

**Description:** Closed book exam consisting of 199 multiple-choice questions

**Passing grade:** 79.4% (158 correct)

**Total time allowed:** Two and one half (2 ½) hours

<b>Percent of Exam</b>	<b>Domain Area</b>
8%	Blueprint Reading
12.5%	Drainage Waste & Venting Systems
6%	Gas
10.5%	H2O Supply and Distribution
3.5%	Inspection & Testing
10%	Math & Measurement
13%	Piping & Tubing
9%	Plumbing Fixture
2.5%	Pumps
12%	Related Science & Code
8.5%	Safety
4%	Welding

An NITC-approved proctor will administer the multiple-choice portion of the examination and also witness the practical portion at the approved testing location. Candidates are notified of a pass or fail result in writing by NITC.

Candidates failing to achieve a passing score will be eligible for re-examination as soon as the next examination is scheduled. Candidates may re-take their examination at the NITC offices or at a Prometric Test Center.



## RECERTIFYING YOUR STAR PLUMBING MASTERY CERTIFICATION

This certification is valid for five (5) years from issuance. Recertification of this certification can be accomplished by successfully passing a fifty (50) question, non-proctored, multiple choice “open book” examination within ninety days of the expiration date of certification. Candidates must answer thirty-seven (37) of the questions (74%) correctly on the exam to achieve a passing grade. Four hours are allowed for the examination.

The recertification examination may be taken computer-based. Additional Information on how to register is provided in a recertification letter sent out by NITC approximately three months prior to expiration of the certification.

### **Important note about recertification:**

*Certification holders are responsible for keeping their certification current. NITC must be notified of any change in address. Changes may be made online, by telephone, or by mail.*

NITC **strongly suggests** sitting for the recertification exam within three months of the expiration date. Be aware that while a “grace period” of up to 90 days after the date of expiration is extended by NITC, individuals **must** allow for the required 21 days for exam processing before the “grace period expires”. **NO EXCEPTIONS**. The individual whose certification has expired is not certified during the grace period. **EXPIRED MEANS EXPIRED**. Failure to recertify within 90 days of the certification expiration date will require the individual to take the original examination.

For fees see the [Certification Examination Price List](#).



## VI. STAR RESIDENTIAL-LIGHT COMMERCIAL HVAC MASTERY

### SCOPE OF WORK: STAR RESIDENTIAL-LIGHT COMMERCIAL HVAC MASTERY

A STAR Residential-Light Commercial HVAC Mastery certification candidate is a qualified individual who can demonstrate mastery of the trade and will be skilled and experienced in operations, planning, blueprint reading, safety, and the practical installation, repair, and service of HVAC systems.

A qualified candidate should possess knowledge of Installation, alteration(retrofit), repair, and service of HVAC systems including the design, construction, and maintenance of all air handling systems, ductwork systems, control systems, and piping for heating and cooling systems in residential and light commercial settings.

A qualified individual may perform these tasks alone, or through the supervision of other individuals. It is expected that the STAR Residential-Light Commercial Mastery examination candidate is a technician who has completed a UA training program or equivalent, and/or has three (3) years of experience in the industry.

### EXAMINATION QUALIFICATION REQUIREMENTS

Candidates must provide three (3) years of documented work experience installing and servicing HVACR systems, or provide documentation of being in the third (3<sup>rd</sup>) year of a HVACR training program involving the installation and servicing of HVACR systems.

### ABOUT THE EXAMINATION

The STAR Residential-Light Commercial HVAC examination is comprehensive. It is designed to test the knowledge of the experienced technician. It is not realistic to expect that inexperienced technicians will be able to pass this examination based solely on the information contained in UA textbooks.

It is recognized that even the best technician does not work in all areas of the service industry. Further, some knowledge can be forgotten through lack of use. As such, it is recommended that you study a number of UA textbooks in preparing for the STAR exam. A list is provided on the following page. If you do not have access to UA training materials, there are Residential-Light Commercial manuals available through industry sources that can serve as reference for you. Please refer to the subject matters covered to locate the appropriate manual or training guide.

**Description:** Closed book exam consisting of 200 multiple-choice questions

**Passing grade:** 80.00% (160 correct)

**Total time allowed:** Two and one half (2 ½) hours

<b>Percent of Exam</b>	<b>Domain Area</b>
15.5%	Applied Science & Math
17%	Basic Electricity
16.5	Comfort Cooling Troubleshooting
13.5%	Controls
11.5%	Heating
6%	Installation
8%	Light Commercial HVAC
8.5%	Safety
3.5%	Soft Skills

An NITC approved proctor administers the written examination. Candidates are notified of a pass or fail result in writing by NITC, the training agency, or by the association that requested the examination.

Candidates failing to achieve a passing score will be eligible for re-examination as soon as the next examination is scheduled. Candidates may re-take their examination at the NITC offices or at a Prometric Test Center.



## RECERTIFYING YOUR STAR RESIDENTIAL LIGHT-COMMERCIAL HVAC MASTERY CERTIFICATION

This certification is valid for five (5) years from issuance. Recertification of this certification can be accomplished by successfully passing a fifty (50) question, non-proctored, multiple choice “open book” examination within ninety days of the expiration date of certification. Candidates must answer thirty-seven (37) of the questions (74%) correctly on the exam to achieve a passing grade. Four hours are allowed for the examination.

The recertification examination may be taken computer-based. Additional Information on how to register is provided in a recertification letter sent out by NITC approximately three months prior to expiration of the certification.

### **Important note about recertification:**

*Certification holders are responsible for keeping their certification current. NITC must be notified of any change in address. Changes may be made online, by telephone, or by mail.*

NITC **strongly suggests** sitting for the recertification exam within three months of the expiration date. Be aware that while a “grace period” of up to 90 days after the date of expiration is extended by NITC, individuals **must** allow for the required 21 days for exam processing before the “grace period expires”. **NO EXCEPTIONS**. The individual whose certification has expired is not certified during the grace period. **EXPIRED MEANS EXPIRED**. Failure to recertify within 90 days of the certification expiration date will require the individual to take the original examination.

For fees see the [Certification Examination Price List](#).

## VII. STAR RESIDENTIAL-LIGHT COMMERCIAL SERVICE TECHNICIAN

### SCOPE OF WORK: STAR RESIDENTIAL-LIGHT COMMERCIAL SERVICE TECHNICIAN

A STAR Residential-Light Commercial Service Technician certification candidate is a qualified individual who can demonstrate mastery of the trade and will be skilled and experienced in customer service, safety, and the practical installation, repair, and service of equipment and piping systems for residential and light commercial HVACR, Plumbing, and Smart Home Technologies.

A qualified candidate should possess knowledge of Installation, alteration(retrofit), repair, and service of related residential and light commercial systems including the design, construction, and maintenance of plumbing fixtures, appliances, appurtenances, air handling systems, ductwork systems, control systems, and piping for potable, solar thermal, and hydronic water systems, drainage, waste, and vented systems, and heating and cooling systems, as well as related electrical systems in residential and light commercial settings.

A qualified individual may perform these tasks alone, or through the supervision of other individuals. It is expected that the STAR Residential-Light Commercial Service Technician examination candidate is a service technician who has completed a recognized apprenticeship training program or equivalent, and/or has three (3) years of experience in the industry.

### EXAMINATION QUALIFICATION REQUIREMENTS

Candidates must provide three (3) years of documented work experience installing and servicing related systems or provide documentation of being in the third (3rd) year of a recognized apprenticeship training program involving the installation and servicing of Plumbing, HVACR, and Smart Home Technology systems.

### ABOUT THE EXAMINATION

The STAR Residential-Light Commercial Service Technician examination is comprehensive. It is designed to test the knowledge of the experienced service technician. It is not realistic to expect that inexperienced service technicians will be able to pass this examination based solely on the information contained in the referenced textbooks.

It is recognized that even the best service technician does not work in all areas of the service industry. Further, some knowledge can be forgotten through lack of use. As such, it is recommended that you study several of the referenced textbooks in preparing for the STAR exam. A list of referenced textbooks is provided on the following page. There are additional Residential-Light Commercial manuals available through industry sources that can serve as reference for you. Please refer to the subject matters covered to locate the appropriate reference materials.

- HVAC and Refrigeration Systems, Ronnie J. Auvil, American Technical Publishers, ISBN: 978-0-8269-0785-1
- HVAC Second Edition, Eugene Silberstein, Cengage, ISBN-13: 9781439056349

- Modern Refrigeration and Air Conditioning 21<sup>st</sup> Edition, Andrew D. Althouse, Carl H. Turnquist, Alfred F. Bracciano, Daniel C. Bracciano, Gloria M. Bracciano, Goodheart-Willcox ISBN-13: 978-1635638776
- Plumbing Design and Installation 4th Edition, L. V. Ripka, American Technical Publishers, ISBN: 978-0-8269-0642-7
- Residential Wiring and Smart Home Technology 4th Edition, Gary J. Rockis, American Technical Publishers, ISBN: 978-0-8269-1833-8
- International Pipe Trades Joint Training Committee Conservation and Safe Handling of Refrigerants (2019)
- HVAC and Refrigeration Systems Training Manual, ISBN: 978-0-8269-0784-4
- Plumbing Service Maintenance and Repair, ISBN: 978-0-8269-9917-7

**Description:** Closed book exam consisting of 200 multiple-choice questions

**Passing grade:** 80.00% (160 correct)

**Total time allowed:** Two and one half (2 ½) hours

Percent of Exam	Domain Area
7%	General Information
5%	Safety and Environmental
4%	Tools and Equipment
5%	Applied Math and Science
23%	Electrical and Controls
40%	HVACR
16%	Plumbing Systems

An NITC approved proctor administers the written examination. Candidates are notified of a pass or fail result in writing by NITC, the training agency, or by the association that requested the examination.

Candidates failing to achieve a passing score will be eligible for re-examination as soon as the next examination is scheduled. Candidates may re-take their examination at the NITC offices or at a Prometric Test Center.

## RECERTIFYING YOUR STAR RESIDENTIAL LIGHT-COMMERCIAL SERVICE TECHNICIAN CERTIFICATION

This certification is valid for five (5) years from issuance. Recertification of this certification can be accomplished by successfully passing a fifty (50) question, non-proctored, multiple choice “open book” examination within ninety days of the expiration date of certification. Candidates must answer thirty-seven (37) of the questions (74%) correctly on the exam to achieve a passing grade. Four hours are allowed for the examination.

The recertification examination may be taken computer-based. Additional Information on how to register is provided in a recertification letter sent out by NITC approximately three months prior to expiration of the certification.

### **Important note about recertification:**

*Certification holders are responsible for keeping their certification current. NITC must be notified of any change in address. Changes may be made online, by telephone, or by mail.*

NITC **strongly suggests** sitting for the recertification exam within three months of the expiration date. Be aware that while a “grace period” of up to 90 days after the date of expiration is extended by NITC, individuals **must** allow for the required 21 days for exam processing before the “grace period expires”. **NO EXCEPTIONS**. The individual whose certification has expired is not certified during the grace period. **EXPIRED MEANS EXPIRED**. Failure to recertify within 90 days of the certification expiration date will require the individual to take the original examination.

For fees see the [Certification Examination Price List](#).

## VIII. STAR COMMERCIAL REFRIGERATION MASTERY

### SCOPE OF WORK: STAR COMMERCIAL REFRIGERATION MASTERY

A STAR Commercial Refrigeration Mastery certification candidate is a qualified individual who can demonstrate mastery knowledge of the trade and will be skilled and experienced in operations, planning, blueprint reading, safety, and the practical installation, repair, and service of commercial refrigeration systems.

A qualified candidate should possess knowledge of installation, repair, and service of commercial refrigeration systems. This knowledge includes the design, construction, installation, alteration (retrofit), repair, service and maintenance of all auxiliary systems, control systems, rack systems, and self-contained units in commercial settings.

A qualified individual may perform these tasks alone, or through the supervision of other individuals.

It is expected that the STAR Commercial Refrigeration Mastery examination candidate is a technician who has completed a UA training program or equivalent, and/or has three (3) years of experience in the industry.

### EXAMINATION QUALIFICATION REQUIREMENTS

Candidates must provide three (3) years of documented work experience installing and servicing commercial refrigeration systems, or provide documentation of being in the third (3<sup>rd</sup>) year of a commercial refrigeration training program involving the installation and servicing of commercial refrigeration systems.

### ABOUT THE EXAMINATION

The STAR Commercial Refrigeration examination is comprehensive. It is designed to test the knowledge of the experienced technician. It is not realistic to expect that inexperienced technicians will be able to pass this examination based solely on the information contained in UA textbooks.

It is recognized that even the best technician does not work in all areas of the service industry. Further, some knowledge can be forgotten through lack of use. As such, it is recommended that you study a number of UA textbooks in preparing for the STAR exam. A list is provided on the following page. If you do not have access to UA training materials, there are Commercial Refrigeration manuals available through industry sources that can serve as reference for you. Please refer to the subject matters covered to locate the appropriate manual or training guide.

**Description:** Closed book exam consisting of 194 multiple-choice questions

**Passing grade:** 83% (161 correct)

**Total time allowed:** Two and one half (2 ½) hours

<b>Percent of Exam</b>	<b>Domain Area</b>
5.1%	Auxiliary Systems
20.1%	Basic Electricity
4.6%	Business & Customer Relations
16.4%	Controls
3.6%	Ice Machines
9.7%	Rack Systems
11.3%	Refrigeration Fundamentals
23.1%	Refrigeration System Operation
6.1%	Self-Contained Units

An NITC approved proctor administers the written examination. Candidates are notified of a pass or fail result in writing by NITC, the training agency, or by the association that requested the examination.

Candidates failing to achieve a passing score will be eligible for re-examination as soon as the next examination is scheduled. Candidates may re-take their examination at the NITC offices or at a Prometric Test Center.





## RECERTIFYING YOUR STAR COMMERCIAL REFRIGERATION MASTERY CERTIFICATION

This certification is valid for five (5) years from issuance. Recertification of this certification can be accomplished by successfully passing a fifty (50) question, non-proctored, multiple choice “open book” examination within ninety days of the expiration date of certification. Candidates must answer thirty-seven (37) of the questions (74%) correctly on the exam to achieve a passing grade. Four hours are allowed for the examination.

The recertification examination may be taken computer-based. Additional Information on how to register is provided in a recertification letter sent out by NITC approximately three months prior to expiration of the certification.

### **Important note about recertification:**

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NITC **strongly suggests** sitting for the recertification exam within three months of the expiration date. Be aware that while a “grace period” of up to 90 days after the date of expiration is extended by NITC, individuals **must** allow for the required 21 days for exam processing before the “grace period expires”. **NO EXCEPTIONS**. The individual whose certification has expired is not certified during the grace period. **EXPIRED MEANS EXPIRED**. Failure to recertify within 90 days of the certification expiration date will require the individual to take the original examination.

For fees see the [Certification Examination Price List](#).