



**PSI Services LLC**  
3210 E Tropicana  
Las Vegas, NV 89121  
Phone: (855) 579-4635  
E-mail: [LARASupport@psionline.com](mailto:LARASupport@psionline.com)  
<https://test-takers.psiexams.com/mimech>

## **Michigan Department of Licensing and Regulatory Affairs Bureau of Construction Codes**



### **MICHIGAN MECHANICAL CONTRACTORS CANDIDATE INFORMATION BULLETIN**

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Please refer to our website to check for the most updated information  
at <https://test-takers.psiexams.com/mimech>.



## EXAMINATIONS BY PSI SERVICES LLC

This Candidate Information Bulletin provides you with information about the examination process for obtaining a license from the Bureau of Construction Codes.

The Department of Licensing and Regulatory Affairs (referred to as the Department) has contracted with PSI Services LLC (PSI) to conduct the Bureau of Construction Codes examination program. PSI provides this examination through a network of computer examination centers in Michigan.

### GUIDELINES FOR EXAMINATION QUALIFICATION

#### HOW TO OBTAIN A LICENSE

1. Request the examination application instructions from:  
**Department of Licensing and Regulatory Affairs**  
P.O. Box 30254  
Lansing, MI 48909  
Phone: (517) 241-9316  
[www.michigan.gov/bcc](http://www.michigan.gov/bcc)  
  
(Select "Examinations and Licensing/Continuing Education")
2. Complete the application and return it with the correct fees to the Department. Only the State of Michigan may determine your eligibility for a license.
3. Once the Department has approved you for the examination, you will receive a notification letter with instructions on how to pay and schedule for the examination. This notification will also be submitted to PSI.
4. Candidates that have their application for examination denied are notified by the Department of the elements they need to complete in order to be approved for licensure.

All questions and requests for information about examinations should be directed to PSI.

**PSI Services LLC**  
3210 E Tropicana  
Las Vegas, NV  
89121

(855) 579-4635 • Fax (702) 932-2666 • TTY (800) 735-2929  
E-mail: [LARASupport@psionline.com](mailto:LARASupport@psionline.com)

### EXAMINATION PAYMENT AND SCHEDULING PROCEDURES

Upon approval of licensure eligibility, PSI will notify the authorized candidate to pay for and schedule the required licensure examination with PSI.

- Candidates must pass the examination within one year of the eligibility date. If you do not pass, you must re-apply with the Department.

- If you fail the examination, you may retest an unlimited amount of times during the one year period.

Exam	Fee
Hydronic Heating and Cooling and Process Piping	\$50
HVAC Equipment (includes ductwork and gas piping)	\$100
Ductwork	\$50
Refrigeration	\$50
Limited Heating Service	\$50
Unlimited Heating Service	\$50
Limited Refrigeration and Air Conditioning Service	\$50
Unlimited Refrigeration and Air Conditioning Service	\$50
Fire Suppression	\$50
Solar Heating and Cooling	\$50
Solid Fuel Equipment & Vented Decorative Gas Appliances	\$50
LP Distribution Piping	\$50
Fuel Gas Piping	\$50
Fuel Gas Piping & Venting	\$50

NOTE: EXAMINATION FEES ARE NOT REFUNDABLE OR TRANSFERABLE. THE EXAMINATION FEE IS VALID FOR ONE YEAR FROM THE DATE OF PAYMENT.

#### ON-LINE

<https://test-takers.psiexams.com/mimech>

For the fastest and most convenient examination scheduling process, PSI recommends that you register for your examinations using the Internet. You register online by accessing PSI's registration website at:  
<https://test-takers.psiexams.com/mimech>

Internet registration is available 24 hours a day.

Log onto PSI's website and select *Sign in / Create Account*. Select *Create Account*. You are now ready to pay and schedule for the exam. Enter your zip code and a list of the testing sites closest to you will appear. Once you select the desired test site, available dates will appear. If you have problems, contact PSI at (855) 746-8173 for help.

#### TELEPHONE

PSI registrars are available to receive payment and to schedule your appointment for the examination. Please call (855) 579-4635, Monday through Friday between 7:30 am and 10:00 pm, and Saturday-Sunday between 9:00 am and 5:30 pm, Eastern Time.

To register by phone, you need a valid credit card (VISA, MasterCard, American Express or Discover.)



## RESCHEDULING/CANCELING AN EXAMINATION APPOINTMENT

You may cancel and reschedule an examination appointment without forfeiting your fee if your *cancellation notice is received 2 days before the scheduled examination date*. For example, for a Monday appointment, the cancellation notice would need to be received on the previous Saturday. You may reschedule online at <https://test-takers.psiexams.com/mimech> or call PSI at (855) 579-4635.

**Note: A voice mail message is not an acceptable form of cancellation. Please use the PSI Website or call PSI and speak directly to a Customer Service Representative.**

### MISSED APPOINTMENT OR LATE CANCELLATION

If you miss your appointment, you will not be able to take the examination as scheduled, further you will forfeit your examination fee, if you:

- Do not cancel your appointment 2 days before the scheduled examination date;
- Do not appear for your examination appointment;
- Arrive after examination start time;
- Do not present proper identification when you arrive for the examination.

### EXAM ACCOMMODATIONS (ADA)

All examination centers are equipped to provide access in accordance with the Americans with Disabilities Act (ADA) of 1990, and exam accommodations will be made in meeting a candidate's needs. [https://proctor2.psionline.com/media/programs/MI/pdf/MI\\_Spec\\_Acomm.pdf](https://proctor2.psionline.com/media/programs/MI/pdf/MI_Spec_Acomm.pdf)

Candidates with disabilities requesting exam accommodations must fill out the exam accommodations request form found at:  
[https://psi-cdexp.zendesk.com/hc/en-us/requests/new?ticket\\_form\\_id=360000150872](https://psi-cdexp.zendesk.com/hc/en-us/requests/new?ticket_form_id=360000150872)

### ALTERNATIVE TEST DELIVERY ARRANGEMENTS

The following options are available to all candidates seeking assistance for an additional fee.

#### **Additional Time While Taking the Examination**

Candidates may request to take the examination with extra time. The candidate will be given time & ½ and there will be an additional fee of \$50 per examination.

#### **Request for Reader along with Additional Time**

Candidates may request to have the examination read to them in English with extra time & ½ for an additional fee of \$50 per examination. PSI will provide the reader.

Candidates applying for exam accommodations must fill out the exam accommodations request form found at [https://psi-cdexp.zendesk.com/hc/en-us/requests/new?ticket\\_form\\_id=360000150872](https://psi-cdexp.zendesk.com/hc/en-us/requests/new?ticket_form_id=360000150872). Any costs associated with the alternative test delivery arrangements must be paid by the candidate.

[https://psi-cdexp.zendesk.com/hc/en-us/requests/new?ticket\\_form\\_id=360000150872](https://psi-cdexp.zendesk.com/hc/en-us/requests/new?ticket_form_id=360000150872)

Any costs associated with the alternative test delivery arrangements must be paid by the candidate.

### EXAMINATION SITE CLOSING FOR AN EMERGENCY

If severe weather or another emergency forces the closure of an examination site on a scheduled examination date, your examination will be rescheduled. PSI personnel will attempt to contact you in this situation via telephone and email. However, you may check the status of your examination schedule by calling (855) 579-4635. Every effort will be made to reschedule your examination at a convenient time as soon as possible. You will not be penalized. You will be rescheduled at no additional charge.

### EXAMINATION SITE LOCATIONS

#### **Dearborn Examination Center**

3200 Greenfield Road, Suite 253 Dearborn, MI 48120  
From Detroit: Merge onto I-94 W. Take exit 209 (Rotunda Dr.) from I-94 W. Turn left onto Rotunda Dr. Follow Rotunda Dr to Commerce Drive South. Turn left on Commerce Dr S, then turn right onto Greenfield Rd. Site is on the right.

#### **Holt-Lansing Examination Center**

4202 Charlar Drive, Suite 1  
Holt, Michigan 48842  
Follow I-496 E, which becomes US-127 S. Take the Holt Rd exit 70. Turn right onto Holt Rd. Turn left onto Cedar St. Turn right onto Charlar Dr.

#### **Southfield-Crossroads Examination Center**

Crossroads Building  
16250 Northland Drive, Suite 359  
Southfield, MI 48075  
From I-75 North and South, exit West 8 Mile. Northland Drive is West of Greenfield Road. Do not go over the Bridge. Pass the Lodge Fwy (Hwy 10). Turn right on Northland Drive.  
From Southfield Fwy North and South, exit East 8 Mile. Go east on 8 Mile to Northland Drive. Northland Drive is next to the Northland Shopping Center.

#### **Southfield-Lahser Road Examination Center**

26400 Lahser Road, Suite 150  
Southfield, Michigan 48033  
From I-96 E merge onto I-696 E. Then merge onto MI-10 S. Take the Lahser Road exit. Keep left at the fork in the ramp. Turn left onto Northwestern Hwy. Turn right onto Lahser Road.

#### **Grand Rapids Examination Center**

4595 Broadmoor Ave SE, Suite 201  
Grand Rapids, MI 49512  
From I-96, exit East Beltline Avenue and proceed south approximately 4 miles. Once you pass 28th Street, Beltline becomes Broadmoor. Continue south an additional 2 miles. 4595 Broadmoor is just south of 44th Street on the right. Use the North Entrance. Room 201 is at the top of the stairs.



From US-131, take exit 77 (M6 the new highway) East toward Lansing. Take exit 15 (M37/Broadmoor), head North (Left) on Broadmoor. 4595 Broadmoor is just north of Barden Street, south of 44th Street on the left. Use the North Entrance to the second floor. Room 201 is at the top of the stairs.

#### **Gaylord Examination Center**

440 W. Main St., Suite D

Gaylord, MI 49735

From I-75 take exit # 282 / M-32 toward Alpena / Gaylord. From the exit ramp, turn east onto W Main (M-32) and go about half a mile. 440 W Main is at the northeast corner of Main and Indiana, halfway between KFC and Subway. Suite D opens off the parking lot.

#### **Marquette Examination Center**

Mid Towne Office Complex 1229 W. Washington

Marquette, MI 49855

Enter the building on the left, and go up the stairs. Go left at the top of the stairs; suite is at the end of the hall on the right.

Additionally, PSI has examination centers in many other regions across the United States. You may take this examination at any of these locations. Once you have paid for the examination, enter your zip code and a list of the testing sites closest to you will appear.

### **REPORTING TO THE EXAMINATION SITE**

On the day of the examination, you should arrive 30 minutes before your appointment. This extra time is for sign-in, identification, and familiarizing you with the examination process. *If you arrive late, you may not be admitted to the examination site and you will forfeit your examination registration fee.*

#### **REQUIRED IDENTIFICATION**

Candidates need to provide one (1) form of identification.

Candidates must register for the exam with their **LEGAL** first and last name as it appears on their government issued identification. The required identification below must match the first and last name under which the candidate is registered. Candidates are required to bring one (1) form of a valid (non-expired) signature bearing identification to the test site.

#### **Required Identification (with photo) - Choose One**

- State issued driver's license
- State issued identification card
- US Government Issued Passport
- US Government Issued Military Identification Card
- US Government Issued Alien Registration Card
- Canadian Government Issued ID

NOTE: ID must contain candidate's photo, be valid

and unexpired.

If the candidate fails to bring proper identification or the candidate names do not match, the candidates will not be allowed to test and their examination fee will not be refunded.

### **SECURITY PROCEDURES**

The following security procedures apply during examinations:

- You will have access to an online calculator  
**OR**  
You may bring a basic four function, non-programmable calculator that is silent, battery-operated, does not have paper tape printing capabilities, and does not have a keyboard containing the alphabet.
- You will be given a piece of scratch paper and a pencil. These will be returned to the proctor at the end of your examination.
- Candidates may take only approved items into the examination room.
- All personal belongings of candidates, with the exception of close-fitting jackets or sweatshirts, should be placed in the secure storage provided at each site prior to entering the examination room. Personal belongings **include, but are not limited to**, the following items:
  - **Electronic devices of any type**, including cellular/mobile phones, recording devices, electronic watches, cameras, pagers, laptop computers, tablet computers (e.g., iPads), music players (e.g., iPods), smart watches, radios, or electronic games.
  - **Bulky or loose clothing or coats** that could be used to conceal recording devices or notes, including coats, shawls, hooded clothing, heavy jackets, or overcoats.
  - **Hats or headgear not worn for religious reasons** or as religious apparel, including hats, baseball caps, or visors.
  - **Other personal items**, including purses, notebooks, reference or reading material, briefcases, backpacks, wallets, pens, pencils, other writing devices, food, drinks, and good luck items.
- Person(s) accompanying an examination candidate may not wait in the examination center, inside the building or on the building's property. This applies to guests of any nature, including drivers, children, friends, family, colleagues or instructors.
- No smoking, eating, or drinking is allowed in the examination center.
- During the check in process, all candidates will be asked if they possess any prohibited items. Candidates may also be asked to empty their pockets and turn them out for the proctor to ensure they are empty. The proctor may also ask candidates to lift up the ends of their sleeves and the bottoms of their pant legs to ensure that notes or recording devices are not being hidden there.



- Proctors will also carefully inspect eyeglass frames, tie tacks, or any other apparel that could be used to harbor a recording device. Proctors will ask to inspect any such items in candidates' pockets.
- If prohibited items are found during check-in, candidates shall put them in the provided secure storage or return these items to their vehicle. PSI will not be responsible for the security of any personal belongings or prohibited items.
- Any candidate possessing prohibited items in the examination room shall immediately have his or her test results invalidated, and PSI shall notify the examination sponsor of the occurrence.
- Any candidate seen giving or receiving assistance on an examination, found with unauthorized materials, or who violates any security regulations will be asked to surrender all examination materials and to leave the examination center. All such instances will be reported to the examination sponsor.
- Copying or communicating examination content is violation of a candidate's contract with PSI, and federal and state law. Either may result in the disqualification of examination results and may lead to legal action.
- Once candidates have been seated and the examination begins, they may leave the examination room only to use the restroom, and only after obtaining permission from the proctor. Candidate will not receive extra time to complete the examination.

## TAKING THE EXAMINATION BY COMPUTER

The examination will be administered via computer. You will be using a mouse and computer keyboard.

### TUTORIAL

Before you start your examination, an introductory tutorial is provided on the computer screen. The time you spend on this tutorial, up to 15 minutes, DOES NOT count as part of your examination time. Sample questions are included following the tutorial so that you may practice answering questions and reviewing your answers.

### TEST QUESTION SCREEN

One question appears on the screen at a time. During the examination, minutes remaining will be displayed at the top of the screen and updated as you record your answers. **IMPORTANT:** After you have entered your responses, you will later be able to return to any question(s) and change your response, provided the examination time has not run out.

### EXAMINATION REVIEW

PSI, in cooperation with the BCC, will be consistently evaluating the examinations being administered to ensure that the examinations accurately measure competency in the required knowledge areas. While taking the examination, examinees will have the opportunity to provide comments on any questions, by using the comments key on the keyboard. These comments will be analyzed by PSI examination development staff. PSI does

not respond to individuals regarding these comments, all substantive comments are reviewed. This is the only review of examination materials available to candidates.

## SCORE REPORTING

Your result will be given to you immediately following completion of the examination. The following summary describes the score reporting process:

- **On screen** - your result will appear immediately on the computer screen. This will happen automatically at the end of the time allowed for the examination; if you are using review features, you will be able to obtain your result immediately when you indicate that you have finished and would like to see your results.
- If you **pass**, you will immediately receive a successful notification.
- If you **do not pass**, you will immediately receive an unsuccessful notification on the screen along with a diagnostic report indicating your strengths and weaknesses by examination type.

You may request a duplicate score report after your examination by emailing [scorereport@psionline.com](mailto:scorereport@psionline.com).

## EXAMINATION REFERENCE MATERIAL AND CONTENT OUTLINES

### CONTRACTOR

Examination	# of Questions	Open/Closed Book Exam	Time Allowed
Hydronic Heating and Cooling and Process Piping	55	Open	60 minutes
HVAC Equipment (includes ductwork and gas piping)	150	Open	180 minutes
Ductwork	55	Open	60 minutes
Refrigeration	55	Open	60 minutes
Limited Heating Service	55	Closed	60 minutes
Unlimited Heating Service	55	Closed	60 minutes
Limited Refrigeration and Air Conditioning	55	Closed	60 minutes
Unlimited Refrigeration and Air Conditioning Service	55	Closed	60 minutes
Fire Suppression	55	Open	60 minutes
Solar Heating and Cooling	55	Open	60 minutes



Solid Fuel Equipment & Vented Decorative Gas Appliances	55	Open	60 minutes
LP Distribution Piping	55	Open	60 minutes
Fuel Gas Piping	55	Open	60 minutes
Fuel Gas Piping & Venting	55	Open	60 minutes

Candidates are responsible for bringing their own references to the examination center. Any candidate caught writing, highlighting, underlining and/or indexing in the references during the examination will be reported to the BCC. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references.

## HVAC EQUIPMENT (INCLUDES DUCTWORK AND GAS PIPING)

# of Questions	Minimum Passing Score	Time Allowed
150	75%	3 Hour

All examinations include questions based on the law covering knowledge of the Skilled Trades Regulation Act, 2016 PA 407 and the Stille-Derossett-Hall Single State Construction Code Act, 1972 PA 230.

## HYDRONIC HEATING AND COOLING AND PROCESS PIPING

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Hydronic heating and cooling and process piping covers the installation of hydronic heating and cooling equipment and systems, installation of process piping, controls and components, combustion air, gas piping, venting and knowledge of codes and standards. This is an open book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Installation of residential boilers utilizing both natural, propane gas and fuel oil. Installed boilers ranging in size from 60,000 BTU'S to 1,000,000 BTU'S. Installed radiant baseboard and in floor hydronic piping in both commercial and residential applications utilizing the following materials: welded steel, threaded schedule 40, copper, PEX with Pro-Press, brazed and soldered joints.

Please review the testing requirements in the link below to determine what materials, if any, are permitted to be brought in during the exam.

[https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical\\_Contractor\\_Licensing\\_Exam\\_Reference\\_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D](https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical_Contractor_Licensing_Exam_Reference_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D)

All reference material must be bound. The materials printed from the BCC website must be bound by 3 staples on the left edge in separate documents. Highlighting, marking and tabs in printed documents are not permitted.

HVAC equipment covers heating and cooling principles and theories, installation of HVAC equipment and systems to provide air conditioning for occupants of buildings and structures, installation of ductwork, gas piping, venting and knowledge of codes and standards. This is an open book exam. Candidate is allowed 3 hours to complete 150 multiple choice questions.

Installation of forced air heating and cooling systems in residential and commercial applications including heat-pumps-(air to air and water-air), mini splits, roof top units from 2-25 tons, geo thermal systems, commercial kitchen exhaust systems for type 1 and type 2, complete duct systems in both commercial and residential applications, type B vents, gas piping systems utilizing natural, propane and fuel oil, lay out and installation of CSST piping systems, exhaust and special venting systems.

Please review the testing requirements in the link below to determine what materials, if any, are permitted to be brought in during the exam.

[https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical\\_Contractor\\_Licensing\\_Exam\\_Reference\\_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D](https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical_Contractor_Licensing_Exam_Reference_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D)

All reference material must be bound. The materials printed from the BCC website must be bound by 3 staples on the left edge in separate documents. Highlighting, marking and tabs in printed documents are not permitted.

Candidates are responsible for bringing their own references to the examination center. Any candidate caught writing, highlighting, underlining and/or indexing in the references during the examination will be reported to the BCC. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references.

## DUCTWORK

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Ductwork covers the installation of air distribution systems for supply, return and exhaust in air conditioning and in non-air conditioning systems, installation of chimneys, flue, vents and knowledge of codes and standards. This is an open book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Installation of various types of air distribution systems in both commercial and residential settings along with the installation of chimneys, flues and venting and exhaust duct systems. Installed metal duct, flexible duct, underground PCD and fiberglass duct board.

Please review the testing requirements in the link below to determine what materials, if any, are permitted to be brought in during the exam.

[https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical\\_Contractor\\_Licensing\\_Exam\\_Reference\\_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D](https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical_Contractor_Licensing_Exam_Reference_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D)

All reference material must be bound. The materials printed from the BCC website must be bound by 3 staples on the left edge in separate documents. Highlighting, marking and tabs in printed documents are not permitted.

Candidates are responsible for bringing their own references to the examination center. Any candidate caught writing, highlighting, underlining and/or indexing in the references during the examination will be reported to the BCC. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references.

## REFRIGERATION

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Refrigeration covers the installation of commercial refrigeration equipment and systems employing the refrigeration cycle to generate low temperatures for other than air conditioning equipment and systems and knowledge of codes and standards. This is an open book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Installation of commercial refrigeration systems including both

walk-in coolers and freezers, sizes range from 1- 10 HP. Refrigerants include- R134a, R22, R408, R12, R404, R500, R502. Installed refrigerant piping systems with brazed, silver-soldered and flared joints. Installation of valves, filter driers, sight glasses and receivers.

Please review the testing requirements in the link below to determine what materials, if any, are permitted to be brought in during the exam.

[https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical\\_Contractor\\_Licensing\\_Exam\\_Reference\\_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D](https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical_Contractor_Licensing_Exam_Reference_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D)

All reference material must be bound. The materials printed from the BCC website must be bound by 3 staples on the left edge in separate documents. Highlighting, marking and tabs in printed documents are not permitted.

Candidates are responsible for bringing their own references to the examination center. Any candidate caught writing, highlighting, underlining and/or indexing in the references during the examination will be reported to the BCC. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references.

## LIMITED HEATING SERVICE

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Limited heating service covers the diagnosis and servicing of fuel fired heating equipment up to 399,000 Btu's and sectional boilers not exceeding 1 million Btu's. This is a knowledge based closed book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Performed troubleshooting & service on heating equipment in both commercial and residential applications from 40,000 -400,000 BTU'S including forced air, boilers, roof top units, radiant tube heaters, wall furnaces and unit heaters utilizing natural, propane and fuel oil.

Please review the testing requirements in the link below to determine what materials, if any, are permitted to be brought in during the exam.

[https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical\\_Contractor\\_Licensing\\_Exam\\_Reference\\_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D](https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical_Contractor_Licensing_Exam_Reference_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D)

All reference material must be bound. The materials printed from the BCC website must be bound by 3 staples on the left edge in separate documents. Highlighting, marking and tabs in printed documents are not permitted.

Candidates are responsible for bringing their own references to the examination center. Any candidate caught writing, highlighting, underlining and/or indexing in the references during the examination will be reported to the BCC. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references.

## UNLIMITED HEATING SERVICE

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Unlimited heating service covers the diagnosis and servicing of heating equipment without restrictions concerning thermal capacity or fuels. This is a knowledge based closed book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Performed troubleshooting & service on heating equipment in both commercial and industrial applications from 40,000 to in excess of 1,000,000 BTU'S including forced air, boilers, roof top units, radiant tube heaters, wall furnaces and unit heaters utilizing natural, propane and fuel oil.

Please review the testing requirements in the link below to determine what materials, if any, are permitted to be brought in during the exam.

[https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical\\_Contractor\\_Licensing\\_Exam\\_Reference\\_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D](https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical_Contractor_Licensing_Exam_Reference_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D)

All reference material must be bound. The materials printed from the BCC website must be bound by 3 staples on the left edge in separate documents. Highlighting, marking and tabs in printed documents are not permitted.

Candidates are responsible for bringing their own references to the examination center. Any candidate caught writing, highlighting, underlining and/or indexing in the references during the examination will be reported to the BCC. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references.

## LIMITED REFRIGERATION AND AIR CONDITIONING SERVICE

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Limited refrigeration and air conditioning service covers the diagnosis and servicing of refrigeration equipment and systems

and air conditioning equipment and systems employing the refrigeration cycle utilizing group one refrigerants. This is a knowledge based closed book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Performed troubleshooting & service on cooling and refrigeration equipment in both commercial and residential applications utilizing group one refrigerants. Serviced condensers, evaporators, cooling only roof top units, mini-splits, deli cases, ice machines, walk and reach in coolers and freezers.

Please review the testing requirements in the link below to determine what materials, if any, are permitted to be brought in during the exam.

[https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical\\_Contractor\\_Licensing\\_Exam\\_Reference\\_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D](https://www.michigan.gov/lara/-/media/Project/Websites/lara/bcc-media/Licensing/Mechanical/Mechanical_Contractor_Licensing_Exam_Reference_Materials.pdf?rev=6e46e041eae645ca9959624359fd0af5&hash=88EE2653031515C4F6B63D4FC0F7720D)

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## UNLIMITED REFRIGERATION AND AIR CONDITIONING SERVICE

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Unlimited refrigeration and air conditioning service covers the diagnosis and servicing of refrigeration equipment and systems and air conditioning equipment and systems employing the refrigeration cycle and unlimited as to thermal capacity or type of refrigerant. This is a knowledge based closed book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Performed troubleshooting & service on cooling and refrigeration equipment in both commercial and residential applications with refrigerant others than those listed as group one; these include, Ammonia and other highly toxic and flammable refrigerants. Serviced condensers, evaporators, compressors, cooling only roof top units, mini-splits, deli cases, ice machines, walk and reach in coolers and freezers.

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## FIRE SUPPRESSION

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Fire Suppression covers the installation of fire suppression equipment and systems that will discharge a fire extinguishing system substance over a fire area and knowledge of codes and standards. This is an open book exam Candidate is allowed 1 hour to complete 50 multiple choice questions.

Installation of various types of fire suppression systems including, wet, dry, pre-action and deluge. Production of hydraulic calculations, production of fire protection shop drawings and performing hydraulic analysis. Installation of steel and plastic piping along with fittings, sprinkler heads, pumps, standpipes. Testing and commissioning of completed system. Installation of commercial kitchen ANSUL systems.

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## SOLAR HEATING AND COOLING

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Solar Heating and Cooling covers the installation of solar equipment and systems intended to utilize solar energy for space heating or cooling and knowledge of codes and standards. This is an open book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Installation of both active, closed-loop solar and passive, batch solar systems. Installed storage tanks, batch and flat plate and evacuated-tube collectors, pumps, heat exchangers, piping and controls. Installed both direct and indirect circulation systems.

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## SOLID FUEL EQUIPMENT AND VENTED DECORATIVE GAS APPLIANCES

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Solid Fuel Equipment & Vented Decorative Gas Appliances covers the installation of equipment that utilizes combusted solid fuel to produce heat or a vented fuel gas appliance wherein the primary function lies in the aesthetic effect of the flames and knowledge of codes and standards. This is an open book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Installation of solid fuel fireplaces and equipment including flue venting, and combustion air piping. I also installed natural and propane gas fireplaces including type B venting in addition to gas log sets.

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## LP DISTRIBUTION PIPING

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

LP Distribution Piping covers the limited installation of fuel gas piping from the outlet of the first stage regulator to the inlet of the second stage regulator and knowledge of codes and standards. This is an open book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Installation of propane gas piping between the first stage

regulator located at the tank and the second stage regulator located at the structure. Installed piping underground at a minimum depth of 12 inches. Installed both copper and plastic piping and fittings.

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## FUEL GAS PIPING

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Fuel Gas Piping covers the installation of piping, valves and fittings from the outlet of the point of delivery to the inlet of the appliance used to convey natural gas, manufactured gas, liquefied petroleum gas or a mixture of these gases and knowledge of codes and standards. This is an open book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Installed complete gas piping system in commercial and residential applications ranging from  $\frac{1}{2}$ " to 4". Installed black iron, copper, corrugated stainless steel tubing (CSST), underground plastic piping and associated fittings and valves.

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## FUEL GAS PIPING AND VENTING

# of Questions	Minimum Passing Score	Time Allowed
55	75%	1 Hour

Fuel Gas Piping & Venting covers the installation of fuel gas piping and the installation of a continuous open passageway from the flue collar or draft hood of an appliance to the outside atmosphere for the purpose of removing flue or vent gases and knowledge of codes and standards. This is an open book exam. Candidate is allowed 1 hour to complete 50 multiple choice questions.

Installed complete gas piping system in commercial and residential applications ranging from  $\frac{1}{2}$ " to 4". Installed black iron, copper, corrugated stainless steel tubing (CSST), underground plastic piping and associated fittings and valves. Complete installation of venting systems for various types of gas fired equipment in residential and commercial applications. Installed type B and type L venting systems, all fuel venting, stainless steel venting and PVC venting.

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