

Massachusetts CTE Teacher Testing Program Carpentry Content Outline

Written and Performance Exam General Overview

- The intent of this exam is to assess the candidate’s ability to teach the skills found in the Massachusetts Technical Education Framework.
- The written exam is a state-developed exam aligned to the frameworks which can be accessed [here](#). The performance exam is a NOCTI-developed teacher test and has been determined by DESE to align to the state frameworks.
- Many questions and tasks require a synthesis of knowledge based on experience in the field and may not be found in any book.
- Use this exam outline and the Massachusetts Technical Education Framework to focus your preparation for the exams.
- Candidates are encouraged to prepare for their written exam by reviewing textbooks and reference material which have been listed as part of this exam outline. These resources can be found using online search tools, online vendors, and websites.

Written Exam

- Number of Questions: 100
- Administration Time: 3 hours
- Passing Score: 70.0%
- Administration Method: Remote Proctored Online Testing Session

Written Exam Content Coverage

10%	<i>Health and Safety</i>
6%	<i>Technical Plans and Prints</i>
1%	<i>Specifications</i>
12%	<i>Fundamentals of Carpentry</i>
4%	<i>Hand Tools</i>
6%	<i>Power Tools</i>
9%	<i>Ladders and Scaffolds</i>
25%	<i>Framing</i>
20%	<i>Finish Carpentry</i>
5%	<i>Commercial Carpentry</i>
2%	<i>Energy Efficient Systems</i>

Written Exam Reference Materials (Reference Current Edition)

- **Modern Carpentry** by Willis H. Wagner and Howard Bud Smith (Goodheart-Willcox)
- **Carpentry** by Leonard Koel (American Technical Publishers)
- **780 CMR Chapter 36: One and Two Family Dwellings, State Building Code** by Commonwealth of Massachusetts
- **29 CFR Part 1926 Safety and Health Regulations for Construction** by U.S. Department of Labor, Occupational Safety and Health Administration

Materials Needed for the Written Exam

- A four-function calculator is included in the online testing system. No other calculators are permitted.
- Scrap paper and pencil/pen are permitted.

Written Exam Sample Items

Each question on the exam consists of one incomplete sentence or question followed by four choices. Some items reference an image or diagram. A few sample items are included below; the correct answer is designated with an asterisk (*).

On steep roofs when roof brackets are being used:

- a. no guardrails are needed.
- b. pump jacks should be in place.
- c. personal fall protective equipment must be worn. (*)
- d. wall brackets must be in place.

A roof that would have eight roof surfaces when installed on a 30 ft. x 36 ft. rectangular building is called a:

- a. gambrel.
- b. hip.
- c. gable.
- d. mansard. (*)

NOCTI Performance Exam

- Administration Time: 2 hours and 45 minutes
- NOCTI Criterion-Referenced Cut Score/Passing Score: 84.8%
- Administration Method: Onsite at a DESE approved Massachusetts Area Testing Center (MATC) location. Candidates must register and schedule their exam session through NOCTI.

Performance Exam Content Coverage

- 18% Tool and Material Identification**
Participant will accurately identify a variety of tools and materials, including saws, bits, saw blades, wrenches, nails, fasteners, lumber, finishing, layout, and marking tools.
- 9% Square Layout**
Participant will use the appropriate equipment and techniques to lay out and chalk a square.
- 8% Establish a Starting Course for Vinyl Siding Using a Builder's Level**
Participant will properly set up and use a builder's level to establish a level chalk line for the starting course of vinyl siding on a wall.
- 17% Blueprint Reading and Exterior Sole Plate Layout**
Participant will lay out a sole plate according to instructions and include all necessary markings.
- 19% Rafter Layout**
Participant will lay out one common rafter using provided plans and materials showing all necessary corrections and adjustments.
- 11% Stairway Stringer**
Participant will layout a 3-tread stringer through interpreting the plan. Participant will use the appropriate tools and providing the correct riser height, tread run, stringer markings, and tread thickness.
- 18% Interior Frame**
Participant will install an interior frame in a given opening using appropriate procedures, tools, and equipment.

Performance Exam Requirements

Candidate Supplied

Candidates must bring all appropriate Personal Protective Equipment (PPE), attire/uniform, and any other safety items as is routinely expected to be used by an employee in the related industry. If the candidate does not bring what is needed to safely complete all jobs on the exam as required in the workplace, the testing session will need to be rescheduled at the candidate's expense.

- Appropriate PPE for the industry
- Appropriate attire/uniform for the industry
- Watch or clock with second hand
- Candidates are permitted to use their own equipment (e.g., hand tools)

Site Supplied

Additional equipment and supplies needed to complete the jobs on the performance test will be provided by the testing site.

Performance Exam Site Requirements

Testing sites may have individual requirements based on location and any relevant and current guidance from the Center for Disease Control and Prevention (CDC).