

Massachusetts CTE Teacher Testing Program Drafting 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

2%	<i>Drafting Safety Knowledge</i>
19%	<i>Fundamentals of Drafting and Design</i>
9%	<i>Conventional Drafting Techniques and Skills</i>
20%	<i>Computer Aided Drafting and Design</i>
15%	<i>Mechanical Drafting and Design</i>
13%	<i>Architectural Drafting and Design</i>
2%	<i>Sustainability</i>
20%	<i>Drafting Related Mathematics</i>

Written Exam Reference Materials (Reference Current Edition)

- **Engineering Drawing and Design** by David A. Madsen, Cathy Stark, Terrance M. Shumaker, J. Lee Turpin (Delmar)
- **Mechanical Drawing** by Thomas E. French (McGraw-Hill)
- **Applying AutoCAD** by Terry T. Wohlers (Glencoe)
- **Technical Drawing** by David E. Goetsch, John A. Nelson, and William S. Chalk (Delmar)
- **AutoCAD: A Problem Solving Approach** by Sham Tickoo (Autodesk Press)
- **Architectural Graphic Standards (Ramsey/Sleeper Architectural Graphic Standards)** by American Institute of Architects, Dennis J. Hall, and Nina M. Giglio (Wiley)
- **Trigonometry Tables and Handy References for Engineers**
(https://www.carrlane.com/Portals/0/PDFs/Trig_Book_Revised_20150204_forweb.pdf)

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 (*).

Which of the following sheet sizes accommodates Mech. "C" and Arch. "C" sheet sizes?

- a. 36" x 24", 34" x 22"
- b. 24" x 18", 22" x 17" (*)
- c. 11" x 8 1/2 ", 17" x 11"
- d. 17" x 11", 18" x 12"

In what dimension form should all dimension text appear horizontal?

- a. X, Y
- b. Aligned
- c. Associative
- d. Uni-Directional (*)

NOCTI Performance Exam

- Administration Time: 2 hours and 45 minutes
- NOCTI Criterion-Referenced Cut Score/Passing Score: 90.2%
- 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

17% **Architectural Symbols and Abbreviations**

Participant will draw the architectural symbols for the items named and match the number in the diagram of construction components with corresponding term.

34% **Elevation**

Participant will create a front elevation using a plan view and wall section to a correct scale and present final project in digital or hard copy format.

49% **Kitchen and Bath Floor Plan**

Participant will create the correct drawing of the kitchen and bath layout, sheet size, line work, dimensions, and notes.

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.

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).