

# Department of Labor and Industry

## Building Official Certification Examination Guide

The information in this guide is provided by the Licensing Unit of the Department of Labor and Industry to ensure that applicants for personal Building Official certifications administered by the department understand basic qualifications, knowledge areas, and examination criteria and format to enable them to successfully complete requirements to become certified. Although this document contains a significant amount of detail, it should not be construed by applicants to be inclusive of all information necessary to successfully make application, pass a license examination, and subsequently become certified by the department. It is the applicant's responsibility to adequately prepare to successfully complete the examination process.

The examination question format, degree of difficulty, and the length of examinations has been in effect since July 2006.

**The codes or other reference material included in this examination guide are based on:**

**Minnesota Statutes 326B,**

**Minnesota Building Code, 2015 edition, (includes all state amendments)**

**Minnesota Residential Code, 2015 edition, (includes all state amendments, MN Rule 1322 Residential Energy Code, and MN Rule 1303 Minnesota Specific Provisions).**

**Minnesota Accessibility Code, 2015 edition**

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# Examination

## Purpose

Successfully completing a license examination provides evidence that the applicant possesses the necessary knowledge and expertise to be licensed in a specific profession or for a specific scope of work within a profession.

Licensing examinations are designed to assess the applicant's competence after they have completed their qualifying education, training, or experience. Licensing examinations are designed to assess higher level skills than academic examinations by assessing the applicant's ability to apply the competencies they gained from their education, training, or experience in actual practice. Licensing examinations are intended to assure the public that the person passing an examination is qualified to practice within the scope of the license without causing harm to the public.

The purpose of this license examination guide is to provide applicants with awareness of knowledge areas covered by specific license examinations, question and examination format, degree of difficulty for specific license examinations, length of examination, and length of time allowed to complete their examination. Applicants are encouraged to review this entire guide to ensure their understanding of the examination process and governing rules.

## General

1. Examination instructions are intended to be clear, concise, and complete. No questions may be asked of the examination proctor (test administrator).
2. Examination questions and answer selections have been developed to be clear, concise, and complete. Applicants should understand the question without having to read the answer selections. No questions may be asked of the examination proctor (test administrator).
3. Examination questions relate to knowledge areas within the scope of the applicable license.
4. Examination questions reasonably cover the knowledge areas within the scope of the applicable license.
5. Examination questions relate to knowledge areas that are common. The examination knowledge areas are within the areas of work generally experienced by applicants for, or persons holding, the class of the applicable license.
6. Applicants are allowed to use the statutes and codes provided and an electronic calculator during their entire examination. All reference materials and a calculator are provided by the Department. **No other materials or electronic devices, including cell phones are allowed in the building.** Although reference materials are available for the entire examination, applicants should be adequately prepared and not need to completely rely on provided reference materials to answer all questions.

A copy of the statutes and codes provided do not include tabs or other aids. The edition of the statutes and codes is the edition adopted as part of the state building code at the time the examination is administered however, there may be changes to statutes or parts of the state building code that do not affect the exam questions or answers for the exam.

The electronic calculator is of the common desk type that includes addition, subtraction, multiplication, division, square root, and percentage functions.

7. Applicants observed giving or receiving assistance from other applicants or outside parties shall be automatically failed and required to submit a new application, including submission of required fees.

8. Applicants observed copying questions or making notes regarding questions shall be automatically failed and required to submit a new application, including submission of required fees.
9. During their examination, applicants may leave the examination room to use the restroom, but are not permitted to leave the building. Applicants leaving the building prior to completing their examination shall be automatically failed and required to submit a new application, including submission of required fees.
10. In addition to being monitored by the on-site proctor, the examination room may be electronically monitored.
11. Examination materials, including completed examinations and scoring keys are classified as nonpublic by Minnesota Statutes section 13.34. Applicants will only be provided with access to examination materials during the time they are being examined.

### Question Format

1. Examination questions are arranged in a manner that requires the applicant to demonstrate competency in the knowledge area.
2. Questions that require calculations resulting in an absolute answer may not always include multiple-choice answers.
3. Variables in a question ensure that the appropriate knowledge area(s) or code rule(s) must be applied to arrive at the correct answer.
4. Multiple-choice answer selections for knowledge areas with multiple conditions or requirements are worded in a manner that requires the applicant to demonstrate knowledge of the subject matter and minimize the applicant's opportunity to select a correct answer(s) based on key words.
5. Questions requiring more than one multiple-choice answer selection are clearly identified, including the number of correct answer selections. This is a companion format to the negative-response format identified in 6 below.
6. Questions with a negative-response format such as "which of the following does **not** apply," is another example of the question format. This is a companion format to the multiple-correct answer format identified in 5 above.
7. Negative response questions and questions requiring more than one multiple-choice answer are limited to: a list of conditions, a list of requirements, or a list of methods.
8. Incorrect multiple-choice answer selections are "plausible."
9. Questions may include extraneous information.
10. As many as 5 variations of an examination may be administered on the same examination date.
11. Individual examinations may be modified up to three times in each code adoption cycle.
12. Examination questions and suggestions are accepted on an on-going basis from interested parties and may become part of an examination question database from which examinations are created.

### **Degree of Difficulty**

1. Each certification category examination has a different degree difficulty based on the authority to administer the State Building Code granted by the certification.
2. Questions have a higher degree of difficulty commensurate with the authority to administer the State Building Code.
3. Examination questions are structured to use words and phrases from the statutes and codes appropriate to the certification.

### **Length of Examination**

1. The license examination for “Certified Building Official” consists of 150 questions and applicants have 5.5 hours to complete the exam.
2. The license examination for “Building Official, Limited” consists of 120 questions and applicants have 4.5 hours to complete the exam.
3. The license examination for “Accessibility Specialist” consists of 40 questions and applicants have 2 hours to complete the exam.
4. Unless stated otherwise, all examination questions have the same point value. Partial points are not given - either full point credit or zero point credit is awarded for each question.
5. The passing score for all examinations is 70 percent correct answers.

### **Examination Results**

1. Examination results are mailed to applicants generally within two weeks of the examination. Examination results are not provided to applicants by telephone or e-mail.
2. Examination result letters mailed to applicants who passed their examinations will contain directions on how to obtain their license.
3. Examination result letters mailed to applicants who failed their examinations will contain directions on how to apply to re-take the exam.

## Examination Review

1. Examinations with scores within five (5) percentage points of passing are rechecked to ensure accuracy.
2. Written or oral reviews of individual examinations are not available to applicants. Applicants may provide written comment to the Department's licensing unit on specific examination questions.
3. Applicants who fail any examination may submit an application to retake the examination 30 days after notification that they failed their examination.

# Sample Questions

The sample questions are intended to identify the various question formats that are used in the examinations. Sample questions were developed using the 2006 versions of the International Code Council's model codes. The knowledge areas used in the sample questions may not be applicable to all classes of examination.

1. Which **three** of the following requirements specifically apply to conventionally framed floor cantilevers?
  - A. Floor cantilever spans shall not exceed the nominal depth of the wood floor joist.
  - B. Floor cantilevers are not permitted when an exterior deck is attached to the floor framing.
  - C. Floor cantilevers supporting an exterior balcony are permitted to be constructed in accordance with Table R502.3.3(2).
  - D. Floor cantilevers are permitted to exceed the nominal depth of the joist if the joists are doubled.
  - E. Floor cantilevers constructed in accordance with Table R502.3.3 (1) shall be permitted when supporting a light-framed bearing wall and roof only.

**Answers: A, C, E     Reference: IRC R502.3.3**

This question demonstrates "multiple correct answers" multiple-choice question format.

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2. Which of the five statements listed below **does not** correctly state code requirements pertaining to the requirements for tenant separations in a Covered Mall Building?
- A. Tenant spaces are not required to be separated from the mall.
  - B. Each tenant space shall be separated from other tenant spaces by a fire partition complying with Section 708.
  - C. A tenant separation wall is not required in attic or ceiling spaces above tenant separation walls.
  - D. Tenant spaces shall be separated from each other by a 2 hour fire wall.
  - E. Tenant separation walls shall have a fire-resistance of not less than 1 hour.

**Answer D     Reference IBC 402 and IBC 708**

This question demonstrates “negative-response” multiple-choice question format.

3. The maximum allowable floor area per floor, without allowable area increases, for a two story, Type V-B, Group B occupancy that has 3 different tenants including a bank, an outpatient clinic, and post office in the basement is limited to \_\_\_\_\_ square feet.
- A. 9,000
  - B. 27,000
  - C. 18,000
  - D. 3,000
  - E. 13,500

**Answer A     Reference IBC Table 503**

This question demonstrates the “absolute answer” and “extraneous information” question format.

4. Only one exit stairway is required from the second floor of a single family dwelling unit. A second stairway is shown on the plan that connects the second floor with the first floor and basement. The second stairway must meet the following?
- A. The stairway must be in a vertical exit enclosure in accordance with IBC 1020.1.
  - B. The stairway is not required to comply with rise and run requirements.
  - C. The stairway is not required to comply with headroom requirements of R311.7.2.
  - D. There may be reduced sized landings at each floor level.
  - E. Stairways must meet all of the requirements of section R311.7.

**Answer E     Reference IRC R311.1**

This question demonstrates “common” multiple-choice question format.

# Formulas and Sample Calculations

The following information includes brief explanation and example of basic formulas and calculations and is **not** intended to be inclusive of all formulas and calculations applicants need to be familiar with to successfully perform building code administration or receive a passing score on any license examination administered by the Department. Examples of more complex calculations can be found in other resources. Knowledge gained through practical experience is generally not adequate to enable an applicant to pass a licensing examination. It is the responsibility of an applicant to adequately prepare themselves, either through formal training or informal, self-help training.

## Units of Measurement

Because most applicants are more familiar with the inch-pound units, all questions and answers in department license examinations use the inch-pound unit system.

## Percentages

A percentage is defined as a ratio of a whole number to 100. The number value, including any decimal of this ratio, is multiplied by 100 and assigned the % sign.

Sample Percentage Questions:

### What is 70% of 140?

The percentage amount is divided by 100 to obtain the decimal equivalent. ( $70 \div 100 = .70$ )  
140 is multiplied by .70 ( $140 \times .70 = 98$ )                      **Answer: 70% of 140 = 98**

### What is the result of increasing 120 by 25%?

The percentage amount is divided by 100 ( $25 \div 100 = .25$ )  
120 is multiplied by .25 ( $120 \times .25 = 30$ )  
30 is then added to the original value of 120 ( $30 + 120 = 150$ )  
**Answer:  $120 \times 1.25 = 150$**

## Equations

If an algebraic formula is known, the opposite function can be performed on both sides of the equation to isolate the unknown value. As an example, the following operations may be used to determine the missing value or to produce another variation of the equation:

A known formula is  $a + b = c$ . This formula may be changed by subtracting a or b from both sides of the equation, resulting in the following variations:  $a = c - b$  or  $b = c - a$ .

# Examination Knowledge Areas

The following table generally identifies knowledge areas included in examinations by certification type.

Knowledge Areas	Certification type		
	BO	BO-L	AS
<b>Code Administration</b>			
Authority to adopt and administer code	X	X	X
Permits, exempt work	X	X	X
Appeals	X	X	X
Codes and standards	X	X	X
Site plans, building plans, moved buildings	X	X	X
Required inspections	X	X	X
Alternate construction methods	X	X	X
Fees	X		
Recycling space	X		
<b>Minnesota Building Code, Minnesota Residential Code</b>			
Building allowable area and height	X		
Occupancy classification	X	X	
Type of construction	X		
Fire walls, fire separation, occupancy separation	X	X	
Exits, stairways, handrails, guards	X	X	
Footings, foundations, slabs	X	X	
Soil bearing	X	X	
Snow loads, wind loads	X	X	
Frost depth	X	X	
Wood framing details	X	X	
Habitable rooms	X	X	
Interior finishes	X	X	
Safety glazing	X	X	
Mezzanines	X		
Sprinkler requirements, hazard levels, standpipes	X		
Smoke alarms, power source	X	X	
Thermal barriers	X		
Masonry fireplaces, chimneys	X	X	
Exterior plaster, veneer	X	X	
Sound transmission control	X	X	
Heating facilities	X	X	
Roofing	X	X	
Ventilation	X		
Vapor barriers	X		
Prefabricated buildings	X	X	
Industrialized modular buildings	X	X	

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Knowledge Areas	Certification type		
	BO	BO-L	AS
Manufactured homes	X	X	
<b>Minnesota Accessibility Code</b>			
Accessible routes	X	X	X
Parking spaces	X	X	X
Building entrances	X	X	X
Floor surfaces	X	X	X
Accessible floor levels	X	X	X
Ramps, walks, slopes	X	X	X
Restrooms, toilet compartments, showers	X	X	X
Plumbing fixtures	X	X	X
<b>Minnesota Rule 1322 Residential Energy</b>			
Procedure Criteria	X	X	
Residential Energy Administration	X	X	
Material, Systems and Equipment	X	X	
Thermal Envelope	X	X	
<b>Minnesota Rule 1303 Radon Control</b>			
Definitions	X	X	
Requirements for passive control	X	X	
Requirements for active radon control	X	X	

The Department of Labor and Industry offers these study suggestions for the types of license examinations indicated. This study guide must not be construed to indicate that all questions will be from the knowledge areas indicated above or that all knowledge areas will be included on individual examinations. License applicants are expected to be familiar with all requirements that apply to the scope of the license they are applying for.

## A BRIEF SUMMARY OF YOUR RIGHTS UNDER THE

## AMERICANS WITH DISABILITIES ACT

### INTRODUCTION

The Americans with Disabilities Act (“ADA”) covers “public entities.” The Department of Labor and Industry (Department) is a “public entity” covered by the ADA. The Department may not refuse to allow a person with a disability to take the examination simply because the person has a disability. It must permit persons with disabilities to take the examination in an integrated setting unless separate or different measures are necessary to ensure equal opportunity. It must eliminate unnecessary eligibility standards or rules that deny individuals with disabilities an equal opportunity to take the examination.

### WHO IS COVERED?

The ADA provides comprehensive civil rights protection for “qualified individuals with disabilities.”

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An “individual with a disability” is a person who: 1) has a physical or mental impairment that substantially limits a “major life activity,” 2) has a record of such an impairment, or 3) is regarded as having such a impairment. “Major life activities” include functions such as caring for oneself, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working.

Individuals who currently engage in the illegal use of drugs are not protected by the ADA when an action is taken on the basis of their current illegal use of drugs.

A “qualified” individual with a disability is one who meets the essential eligibility requirements for the examination. The Department is not required to take any action that would result in a fundamental alteration in the nature of the examination or an undue financial and administrative burden. However, the Department must take any other action, if available, that would not result in a fundamental alteration or undue burdens but would ensure that individuals with disabilities receive the benefits or services.

## WHAT IS REQUIRED?

The Department is required to make reasonable modifications in any policies, practices, and procedures that deny equal access to individuals with disabilities, unless a fundamental alteration in the examination would result. To do so, it must furnish auxiliary aids and services when necessary to ensure effective communication, unless an undue burden or fundamental alteration would result. The Department may not place special charges on individuals with disabilities to cover the costs of measures necessary to ensure nondiscriminatory treatment, such as making modifications required to provide program accessibility or providing qualified interpreters. Finally, it must operate the examination so that, when viewed in its entirety, it is readily accessible to and usable by individuals with disabilities.

Integration of individuals with disabilities into the mainstream of society is fundamental to the purpose of the ADA. The Department may not provide the examination to individuals with disabilities through programs that are separate or different, unless the separate programs are necessary to ensure that the benefits and services are equally effective. Even when separate programs are permitted, an individual with a disability still has the right to choose to participate in the regular program. The Department cannot require an individual with a disability to accept a special accommodation or benefit if the individual chooses not to accept it.

## QUESTIONS?

If you have any questions about the ADA we encourage you to call the United States Department of Justice which as an ADA information line, at (202) 514-0301 (voice) or (202) 514-0381/0383 (TTY). These telephone numbers are not toll-free numbers.

**INFORMATION ABOUT THE EXAMINATIONS AND AVAILABILITY OF ALTERNATIVE ARRANGEMENTS FOR PERSONS WITH DISABILITIES**

**GENERAL INFORMATION**

If you are a person with a disability, you have certain rights under the Americans with Disabilities Act (“ADA”). A brief summary of these rights is on the back of this sheet. It is not meant to be complete. If you have any questions about your rights under the ADA we encourage you to call the United States Department of Justice, which has an ADA Information Line, at (202) 514-0301 (voice) or (202) 514-0381/0383 (TTY). These telephone numbers are not toll-free numbers.

**ABOUT THE EXAMINATIONS**

A copy of the License Examination Guide may be obtained from the Department’s website at: <http://www.dli.mn.gov/CCLD/Official.asp>

Examinations are held weekly at the Department of Labor and Industry Building located at 443 Lafayette Road North, Saint Paul, just north of the intersection of Interstate 94 and US Highway 52 (Lafayette Road North), on the northeast edge of downtown Saint Paul. The building is accessible to persons with physical disabilities.

Other locations can be found on the following link <http://www.dli.mn.gov/CCLD/exam.asp> and are also accessible to persons with physical disabilities.

Specify instructions for scheduling and appearing for an examination are included in the letter that is sent to approved applicants.

**ALTERNATIVE ARRANGEMENTS**

The ADA requires this agency to make “reasonable accommodations” for applicants with disabilities in giving the examinations. If you are a person with a disability which may affect your ability to enter the examination facility or to take any portion of the examination, the ADA may require the agency to provide alternative examination arrangements. We are not required to do so if we are unaware of your need for alternatives. Based on the above description of the examination facilities and the examination itself, we ask that you inform us of any alternative arrangements you may require to take and examination. Please describe in detail:

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(Use additional paper if necessary and attach to this form)

**SIGNATURE** \_\_\_\_\_ **DATE** \_\_\_\_\_

**IF YOU ARE REQUESTING ALTERNATIVE ARRANGEMENTS BASED ON A DISABILITY, PLEASE SUBMIT THIS FORM WITH YOUR APPLICATION FOR EXAMINATION FORM.**

# Examination Schedule/Scheduling Examinations

**Before anyone may schedule an examination date, the individual's examination application must be approved by DLI. There are no exceptions.**

Dates scheduled by individuals without written approval of their application will be rejected and not scheduled. Individuals retesting after a failed exam must apply for another examination date.

Detailed exam dates, location and scheduling information can be accessed at:  
<http://www.dli.mn.gov/CCLD/exam.asp>

Applicants must schedule their examinations ahead of time. Walk-ins are not permitted to take an examination. Applicants may reschedule their examination one time. Applicants that fail to appear for a rescheduled examination as well as applicants that fail their examination must submit a new application and examination fee before being approved for examination or reexamination.

**Effective January 1, 2013, examinations administered at the St. Paul office begin at 8:30 a.m.**

**All applicants should arrive at the examination site not later than 30 minutes before their scheduled starting time. A picture ID must be presented by all applicants when they appear for examination. All other locations have specific start and completion schedules.**

**Note: Exam candidates will be allowed to take food and beverages into the room and are permitted to keep these items with them during the exam. Please be considerate of the exam locations and clean up after yourself, if you elect to bring food and beverages into the room. Exam rooms all have trash and recycling receptacles for your use.**

The Department of Labor and Industry Building located at 443 Lafayette Road North, Saint Paul, just north of the intersection of Interstate 94 and US Highway 52 (Lafayette Road North), on the northeast edge of downtown Saint Paul.

<http://www.mapquest.com/maps/map.adp?country=US&addtohistory=&formtype=address&searchtype=address&cat=&address=443%20Lafayette%20Rd%20N&city=Saint%20Paul&state=MN&zipcode=55155%2d4301>

Specific instructions concerning the examinations in St. Paul are sent as a part of the "Approved for Examination" letter and specific instructions for out-state sites are sent to persons who schedule at those sites.

# Qualifications for Certification Applicants

The qualifications for building official certification are located in Minnesota Rules Chapter 1301. The rules require education, national certifications, municipal code administration or construction related experience to qualify. To review the qualifications, see Minnesota Rule 1301.0300 or click on the link below;

<https://www.revisor.mn.gov/rules/?id=1301&view=chapter#rule.1301.0300>

## **Military Experience**

Applicants requesting experience credit for the construction of buildings with specific skilled participation in the construction of foundations, superstructures or the installation of the building's mechanical, plumbing, electrical, or fire suppression systems, while working in the military must include a copy of their DD214 discharge documents with their application.

# Obtaining Licenses Through Reciprocal Agreements

There are no reciprocal agreements with other states for Minnesota Building Official certifications.

# Continuing Education Requirements

Upon obtaining a license, the license holder must earn minimum continuing education credits to renew and maintain a license. To review continuing education requirements see Minnesota Rule 1301.0900 or click on the link below.

<https://www.revisor.mn.gov/rules/?id=1301&view=chapter#rule.1301.0900>

Continuing education credits may be used for renewal of more than one class of license, but may only be used once for each class of license. Continuing education credits in excess of those required for renewal and earned prior to expiration of a license do not carry over to the next license term.

Continuing education credit is received for verified attendance and completion of programs that have been approved in advance by the department. Minnesota Rule 1301.1000 contains a list of approved continuing education courses. To review the list of approved continuing education courses see Minnesota Rule 1301.1000 or click on the link below.

<https://www.revisor.mn.gov/rules/?id=1301&view=chapter#rule.1301.1000>

Continuing education credit may also be received by taking a course that meets the requirements of 326B.0981 subdivision 5. These courses are reviewed on an individual basis and must have appropriate and related knowledge for the building official classification.

# Personal License and Examination Application

Personal license applications may be downloaded from the Department's website at:  
<http://www.dli.mn.gov/CCLD/Official.asp>

**Upon request this document can be made available in alternative  
formats for people with disabilities.**