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Providing Initial and Continuing Education Hours To The Wisconsin Construction Trades

COURSE 962560

Blueprint Reading Principals

Exam Material

Uscontractorlicense LLC

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Summary Of This Course

BLUEPRINT READING PRINCIPALS

Approved by the

Wisconsin Department of Safety and Professional Services Safety and Buildings Division

Course Identification Number 962560

Educational Credit Hours: 4 Hours

Course Provider:

USCONTRACTORLICENSE LLC

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This Blueprint Plans and Drawings course will provide the basis for using a set of architectural plans. You will explore the various views of plan drawings and how to visualize and interpret those drawings.

This Course is approved for the following electrical Registrations/Certifications or Licenses:

Dwelling Contractor Qualifier	4 Hours of Continuing Education	

This course is a distance learning or e-learning course, which allows the attendee to complete the course on their time schedule.

Course Outline

This course is a distance learning or e-learning course, which allows the attendee to complete the course on their time schedule.

Introduction

Learning Objectives

Review of Previous Topics

Projecting the View

Five Basis Views

How to Read Plans

The Language of Plans

Proper Handling of Drawings and Plans

Scale

Using a Fractional Rule

Glossary

Exam

120 questions related to the reference materials are used to test the attendee on their comprehension of the materials. A 70% score will need to be attained in order to pass this course.

Answer Sheet(s)

1 bubble style answer sheets are included. When you are finished with the exam, you may return the answer sheets for grading to:

By Mail: Uscontractorlicense LLC
PO Box 268
Platteville, Wisconsin 53818

By Email: michael@uscontractorlicense.com

By Fax: 608-571-0096

Once we get the answer sheets back, we will graded them, enter your hours into the attendance portal and email or mail you back your certificate of completion(s). You will be responsible for renewing your license with the DSPS at www.license.wi.gov website.

Any questions, please contact us at 608.348.6688

Blueprint Reading Principles Exam

Questions 1 thru 3 Can Be Found on Page 2 – Introduction

1. The Blueprint Plans and Drawings course is intended to:
A. Teach drafting software
B. Provide the basis for using architectural plans
C. Explain building codes
D. Train inspectors

2. The course teaches how to locate symbols and abbreviations on:
A. Contracts
B. Construction documents
C. Permits
D. Specifications only

3. Scale is used to determine:
A. Cost
B. Dimensions on a set of plans
C. Materials
D. Scheduling

Questions 4 thru 5 Can Be Found on Page 3 – Topics

4. Which topic is included in this course?
A. Jobsite safety
B. How to read plans
C. Welding methods
D. Cost estimating

5. The language of plans includes:
A. Contracts
B. Symbols, abbreviations, and lines
C. Permits
D. Codes

Questions 6 thru 7 Can Be Found on Page 4 – Learning Outcomes

6. Students should be able to identify:
A. Contractor schedules
B. Various drawing views
C. Labor costs
D. Inspection reports

7. Proper handling of plans includes:
A. Folding drawings
B. Writing notes freely
C. Preventing damage
D. Laminating sheets

Questions 8 thru 12 Can Be Found on Page 5 – Review of Prior Learning

8. Blueprints are:
A. Marketing documents
B. Detailed architectural drawings
C. Inspection records
D. Cost breakdowns

9. Specifications are:
A. Drawings
B. Written construction instructions
C. Floor plans
D. Elevations

10. Architectural drawings form the basis for:
A. Civil drawings only
B. All other drawings
C. Electrical drawings only
D. Mechanical drawings only

11. Visualization is the ability to:
A. Read dimensions
B. Form a mental picture of the structure
C. Calculate materials
D. Interpret codes

12. A shop drawing shows:
A. Entire structures
B. Exact details for a specific trade
C. Property boundaries
D. Schedules

Question 13 Can Be Found on Page 6 – Orthographic Drawings

13. Orthographic drawings show objects using:
A. Perspective views
B. Two-dimensional views
C. Isometric views
D. Freehand sketches

Questions 14 thru 16 Can Be Found on Page 7 – Projecting the View

14. Orthographic projection relates views by:
A. Color
B. Right angles
C. Scale
D. Symbols

15. In orthographic projection, the front view:
A. Rotates
B. Remains in position
C. Is removed
D. Is enlarged

16. Orthographic views are projected at:
A. 45°
B. 60°
C. 90°
D. 120°

Questions 17 thru 18 Can Be Found on Page 8 – Blueprint Views

17. The first step in building a structure is to:
A. Excavate
B. Develop a plan
C. Order materials
D. Hire labor

18. A plan is:
A. A legal document
B. A set of technical drawings
C. A specification
D. A contract

Questions 19 thru 20 Can Be Found on Page 9 - Five Basic Views

19. How many basic elevation views are identified?
A. Three
B. Four
C. Five
D. Six

20. Which is a basic view?
A. Electrical plan
B. Plot plan
C. Mechanical plan
D. Finish plan

Questions 21 thru 22 Can Be Found on Page 10 - Plot Plans

21. A plot plan shows:
A. Interior layout
B. How the structure fits on the lot
C. Roof framing
D. Wall sections

22. A plot plan is also called a:
A. Floor plan
B. Site plan
C. Detail plan
D. Section plan

Questions 23 thru 24 Can Be Found on Page 11 – Elevations

23. Elevation drawings show:
A. Interior rooms
B. Exterior views at eye level
C. Roof slope
D. Utilities

24. Elevations are labeled using:
A. Numbers
B. Letters
C. Compass directions
D. Colors

Questions 25 thru 26 Can Be Found on Page 12 – Floor Plans

25. Floor plans are viewed as if:
A. From the basement
B. Looking down from above
C. At an angle
D. From outside

26. Floor plans provide:
A. Minimal information
B. The most information
C. Only wall locations
D. Only door sizes

Questions 27 thru 28 Can Be Found on Page 13 – Cross Section or Wall Section

27. A section view is created as if the building were:
A. Rotated
B. Folded
C. Sliced vertically
D. Tilted

28. Section views clarify:
A. Landscaping
B. Interior construction
C. Property lines
D. Finishes only

Questions 29 thru 31 Can Be Found on Page 14 – Door, Window and Finish Schedules

29. Door and window schedules list:
A. Costs
B. Sizes and information
C. Labor
D. Codes

30. Doors are listed:
A. Alphabetically
B. By room
C. Numerically
D. By material

31. Windows are listed:
A. Numerically
B. Alphabetically
C. By elevation
D. By size

Questions 32 thru 33 Can Be Found on Page 15 – Proper Handling

32. Plans should be stored:
A. Folded
B. Rolled outward
C. In a clean, dry place
D. Under tools

33. Writing on plans is allowed only when:
A. In pencil
B. Authorized
C. During construction
D. After approval

Questions 34 thru 35 Can Be Found on Page 16 – Detail Views

34. A detail drawing is:
A. A full building view
B. A close-up of a component
C. A site plan
D. A roof plan

35. Detail views are commonly used for:
A. Landscaping
B. Walls and hardware
C. Property boundaries
D. Schedules

Question 36 Can Be Found on Page 17 – Plan and Drawings

36. Individual sheets together form:
A. A contract
B. A set of plans
C. A specification
D. A permit

Questions 37 thru 39 Can Be Found on Page 18 – How to Read Plans

37. Plan reading is:
A. Drafting
B. Gathering information from plans
C. Estimating
D. Scheduling

38. Visualization means:
A. Measuring
B. Envisioning size and shape
C. Calculating costs
D. Reading notes

39. Interpretation involves:
A. Costs
B. Lines, symbols, and dimensions
C. Schedules
D. Permits

Question 40 Can Be Found on Page 19 – The Language of Plans

40. The language of plans consists primarily of:
A. Contracts and codes
B. Symbols, abbreviations, and lines
C. Schedules and specifications
D. Notes and legends only

Questions 41 thru 43 Can Be Found on Page 20 – The Language of Plans

41. Drawings typically use symbols and abbreviations that are:
A. Unique to each project
B. Decorative
C. Standard to the industry with some variation
D. Required by law

42. The architect must ensure symbols used are:
A. Artistic
B. Understood by those reading the plans
C. Approved by inspectors
D. Identical on all projects

43. A table or legend is used to explain:
A. Costs
B. Specifications
C. Symbols and abbreviations
D. Dimensions

Questions 44 thru 45 Can Be Found on Page 21 – The Language of Plans

44. Symbol and abbreviation lists at the front of plans are usually created by:
A. Contractors
B. Engineers
C. Architectural firms
D. Inspectors

45. Separate symbol lists may be created by:
A. Owners
B. Surveyors
C. Mechanical or electrical engineers
D. Suppliers

Questions 46 thru 49 Can Be Found on Page 22 – The Language of Plans - Symbols

46. Symbols generally do not resemble the objects they represent and must be:
A. Interpreted
B. Memorized
C. Estimated
D. Scaled

47. Which is a type of symbol used on plans?
A. Civil symbol
B. Drawing or graphic symbol
C. Cost symbol
D. Inspection symbol

48. Architectural material symbols are recognized by:
A. Shape
B. Color
C. Familiarity
D. Size

49. All tradespersons should be familiar with symbols because they:
A. Affect scheduling
B. Affect their area of construction
C. Affect inspection fees
D. Show cost

Questions 50 thru 51 Can Be Found on Page 23 – The Language of Plans - Drawing Symbols

50. A column grid symbol is used to identify:
A. Wall thickness
B. Column locations
C. Door numbers
D. Window sizes

51. A north arrow symbol indicates:
A. Elevation height
B. Project location
C. Directional orientation
D. Wind direction

Question 52 Can Be Found on Page 24 – The Language of Plans - Material Symbols

52. Material symbols are used to indicate:
A. Labor requirements
B. Construction materials
C. Dimensions
D. Costs

Questions 53 thru 55 Can Be Found on Page 25 - The Language of Plans - Abbreviations

53. Abbreviations are used primarily to:
A. Improve appearance
B. Save time and space
C. Indicate costs
D. Show scale

54. Abbreviations may:
A. Have one meaning only
B. Never change
C. Have multiple meanings
D. Be decorative

55. Abbreviations are explained on:
A. Floor plans
B. Elevations
C. The legend or cover sheet
D. Schedules

Questions 56 thru 57 Can Be Found on Page 26 - The Language of Plans - Lines

56. Lines are the basis of:
A. Specifications
B. All industrial drawings
C. Contracts
D. Codes

57. The meaning of a line is determined by:
A. Its color
B. Its thickness and pattern
C. Its location
D. Its length

Questions 58 thru 59 Can Be Found on Page 27 – The Language of Plans - Property Lines

58. Property lines are drawn using:
A. Thin solid lines
B. Medium dashed lines
C. Extra-heavy dashed lines
D. Zigzag lines

59. Property lines are typically found on:
A. Floor plans
B. Elevations
C. Site plans
D. Sections

Questions 60 thru 61 Can Be Found on Page 28 – The Language of Plans - Object Lines

60. Object lines are:
A. Thin dashed lines
B. Heavy continuous lines
C. Center lines
D. Break lines

61. Object lines show the outline of:
A. Hidden features
B. Objects such as rooms, doors, and windows
C. Dimensions
D. Property boundaries

Questions 62 thru 63 Can Be Found on Page 29 – The Language of Lines - Hidden Lines

62. Hidden lines are made of:
A. Solid heavy lines
B. Short evenly spaced dashes
C. Zigzag lines
D. Alternating long and short dashes

63. Hidden lines show:
A. Visible edges
B. Obstructed objects
C. Dimensions
D. Centers

Questions 64 thru 65 Can Be Found on Page 30 – The Language of Plans - Break Lines

64. Break lines indicate that an object:
A. Is centered
B. Is incomplete to save space
C. Is hidden
D. Is symmetrical

65. A long break line is shown by:
A. Dots
B. Zigzag lines
C. Short dashes
D. Solid lines

Questions 66 thru 68 Can Be Found on Page 31 - The Language of Plans - Dimension & Extension Lines

66. Dimension lines are used to indicate:
A. Location
B. Distance between points
C. Hidden objects
D. Centers

67. Extension lines show:
A. Object outlines
B. Measured points
C. Hidden edges
D. Scale

68. Measurements are written:
A. Below the object
B. On or above the dimension line
C. In notes only
D. In the title block

Questions 69 thru 70 Can Be Found on Page 32 – The Language of Plans - Center Lines

69. Center lines indicate the center of:
A. Property lines
B. Symmetrical objects
C. Hidden objects
D. Dimensions

70. Center lines are drawn using:
A. Solid lines
B. Dotted lines
C. Alternating long and short dashes
D. Zigzag lines

Questions 71 thru 72 Can Be Found on Page 33 – The Language of Plans - Leader Lines

71. Leader lines connect:
A. Dimensions to scale
B. Notes to objects
C. Walls to floors
D. Sections to elevations

72. Leader lines usually end with:
A. A square
B. A number
C. An arrowhead
D. A dot only

Questions 73 thru 74 Can Be Found on Page 35 – What Is the Scale of a Blueprint?

73. A scale is defined as the:
A. Length of the drawing
B. Ratio of drawing size to actual size
C. Cost factor of a project
D. Weight of materials

74. Blueprints are drawn to scale because buildings are:
A. Small
B. Temporary
C. Too large to draw full size
D. Decorative

Questions 75 thru 76 Can Be Found on Page 36 – Determine Scale Reading The Fractional Rules

75. A fractional rule is divided into:
A. Tenths
B. Inches only
C. Eighths or sixteenths
D. Millimeters

76. Fractional rules are commonly used for:
A. Large site plans
B. Small objects and details
C. Plot plans
D. Civil drawings

Questions 77 thru 79 Can Be Found on Page 37 – Reading the Architect's Scale

77. The architect's scale is primarily used for:
A. Plot plans
B. Building construction drawings
C. Road layouts
D. Surveying

78. Architect's scales measure primarily in:
A. Inches only
B. Feet and inches
C. Yards
D. Millimeters

79. The inch portion of an architect's scale is identified by:
A. Larger spacing
B. Closely spaced lines
C. Numbers only
D. Decimal markings

Questions 80 thru 81 Can Be Found on Page 38 – Reading The Architect's Scale

80. A triangular architect's scale contains:
A. 6 scales
B. 8 scales
C. 10 scales
D. 11 scales

81. A triangular scale is used because it:
A. Is cheaper
B. Contains multiple scales in one tool
C. Is more accurate
D. Is required by code

Questions 82 thru 83 Can Be Found on Page 39 – Triangular Scale

82. The most commonly used architectural scale is:
A. 1/16″ = 1′-0″
B. 1/8″ = 1′-0″
C. 1/2″ = 1′-0″
D. 1″ = 1′-0″

83. A larger scale drawing shows:
A. Less detail
B. More detail
C. Less accuracy
D. Only outlines

Questions 84 thru 85 Can Be Found on Page 40 – Bevel Scales

84. When using a scale, measurements must be read:
A. From either end
B. In the correct direction
C. From the middle
D. Using a ruler

85. Reading a scale backward may result in:
A. Accurate dimensions
B. Half or double the actual size
C. No measurement
D. Only minor errors

Questions 86 thru 87 Can Be Found on Page 41 – Determining Actual Length

86. Before measuring, you must verify:
A. Paper size
B. The scale used on the drawing
C. The material type
D. The drawing date

87. Dimensions written on drawings should:
A. Be ignored if scaled
B. Always be used instead of scaling
C. Be doubled
D. Be estimated

Question 88 Can Be Found on Page 55 – Engineer's Scale

88. Engineer's scales are divided into:
A. Inches
B. Fractions
C. Tenths
D. Sixteenths

Questions 89 thru 92 Can Be Found on Page 56 – Determining Plan Dimensions

89. Dimensions on plans are typically written in:
A. Inches only
B. Feet only
C. Feet and inches
D. Decimals only

90. When dimensions are written, the feet portion is shown as:
A. Fractions
B. Decimals
C. Whole numbers
D. Roman numerals

91. Inches in dimensions may be shown as:
A. Decimals only
B. Fractions only
C. Fractions or decimals
D. Whole numbers only

92. Which symbol is commonly used to indicate feet?
A. ″
B. ′
C. #
D. @

Questions 93 thru 95 Can Be Found on Page 57 – Determine Plan Dimensions

93. When using a scale, the measurement taken represents:
A. Approximate size
B. Drawing size
C. Actual size
D. Reduced size

94. A line measuring 1 inch on a 1/4″ = 1′-0″ scale equals:
A. 2 feet
B. 3 feet
C. 4 feet
D. 8 feet

95. A 1-1/2″ line on a 1/4″ scale equals:
A. 5 feet
B. 6 feet
C. 7 feet
D. 8 feet

Questions 96 thru 99 Can Be Found on Page 58 – Determining Plan Dimensions

96. When a dimension is missing on a drawing, the correct action is to:
A. Estimate the distance
B. Ignore the dimension
C. Check other drawings
D. Stop reading the plans

97. Scaling should be used when:
A. Written dimensions are unclear or missing
B. Dimensions are clearly given
C. Estimating costs
D. Reviewing specifications

98. Equal distances shown on plans should:
A. Be close in size
B. Be estimated
C. Always be the same
D. Be rounded

99. Dimensions should always be:
A. Assumed correct
B. Compared and checked
C. Rounded up
D. Ignored if scaled

Questions 100 thru 120 Can Be Found on Pages 59 to the end of Review Material

100. Architectural drawings include working plans, elevations, and:
A. Contracts
B. Details and other necessary information
C. Inspection reports
D. Cost estimates

101. Engineer's scales are most commonly used for:
A. Interior floor plans
B. Plot plans and site development
C. Wall sections
D. Finish schedules

102. All tradespersons should understand symbols because they:
A. Control inspection schedules
B. Affect their area of construction
C. Determine labor costs
D. Replace specifications

103. An architect is defined as:
A. A construction supervisor
B. A licensed person who designs building plans
C. A building inspector
D. A project manager

104. CAD stands for:
A. Civil Architecture Design
B. Computer Aided Design
C. Construction Analysis Drawing
D. Contract Assembly Document

105. Structural plans are used to:
A. Show interior finishes
B. Support architectural design
C. Display furniture layouts
D. Identify schedules

106. The primary purpose of blueprint reading is to:
A. Design buildings
B. Interpret construction documents accurately
C. Estimate project costs
D. Write specifications

107. What is the primary purpose of an architect's scale?
A. To calculate structural loads
B. To measure angles in drawings
C. To lay out distances using feet, inches, and fractions of inches
D. To draw curved architectural features

108. Which of the following best describes architectural plans?
A. Construction schedules prepared by contractors
B. Engineering calculations for structural members
C. Material delivery and cost breakdown sheets
D. Drawings prepared by an architect showing overall aesthetics, size, shape, and appearance

109. What is a beam in building construction?
A. A vertical support transferring loads to the foundation
B. A decorative trim element used in ceilings
C. A large horizontal structural support made of steel, stone, or wood
D. A surface used to attach interior finishes

110. What is a blueprint?
A. A digital 3D model of a building
B. A written description of construction procedures
C. A photographic print of a technical drawing with white lines on a blue background or blue lines on a white background
D. A hand-drawn sketch used only during design

111. What do civil plans primarily show?
A. Interior room layouts
B. Electrical wiring details
C. Structural beam sizes
D. The location of a building on a site from an aerial view

112. Why are contour lines important on civil plans?
A. They show interior wall locations
B. They identify door and window sizes
C. They indicate roofing materials
D. They help show changes in ground elevation and slope

113. What are contract documents used for in a construction project?
A. To show only interior design features
B. To record inspection results
C. To describe all documents needed to build a project, including plans, specifications, general conditions, and the construction contract
D. To list subcontractor contact information

114. Which of the following is typically included in contract documents?
A. Shop drawings only
B. Daily jobsite reports
C. Building permits
D. Plans and specifications

115. What is the primary purpose of a detail drawing?
A. To show the building location on the site
B. To provide a 3D view of the structure
C. To show enlarged views of specific building features such as floors and walls
D. To list material quantities

116. How is a dimension line typically represented on a drawing?
A. With circles at each end and no numbers
B. With a dashed line and no markings
C. With arrowheads at both ends and the measurement written near the middle
D. With symbols showing material types

117. What information is shown on electrical plans?
A. Plumbing fixture locations
B. Structural beam sizes
C. HVAC duct routing
D. Electrical supply and distribution locations, including meters and switchgear

118. In architectural drawing, what does the term "elevation" refer to?
A. The width of a structure from side to side
B. The interior room layout of a building
C. The height above sea level or another defined surface
D. The thickness of walls and floors

119. **What best describes an elevation drawing?**

A. A top-down view of a building's layout
B. A cut-through view showing internal construction
C. A three-dimensional perspective view
D. A side view showing the height of an object

120. What is the primary purpose of an engineer's scale?

A. To measure angles on floor plans
B. To show room dimensions in feet and inches
C. To convert drawings into 3D models
D. To measure and draw using uniform decimal divisions