



NATIONAL
Home Inspector Content Outlines

National Home Inspector Content Outline

Content Outline effective January 1, 2019

This content outline based on the role delineation study, is intended to provide candidates with topics for study that may appear on the National Home Inspector Examination. The percentage of questions on the examination for each content area is indicated below. The contents of this document are neither a complete listing of all topics covered by the examination nor all skills necessary to perform a competent inspection.

DOMAIN 1: PROPERTY AND BUILDING INSPECTION/SITE REVIEW (63%)

Task 1: Identify and inspect **site conditions** to assess defects and issues that may affect people or the performance of the building. (5%)

a. Vegetation, Grade, Drainage, and Retaining Walls

- i. Common types, materials, and terminology
- ii. Applicable standards, installation methods, and clearance
- iii. Typical defects (e.g., negative grade, earth to wood contact, overgrown vegetation, missing drainage/drains)
- iv. Common safety issues

b. Driveways, Patios, and Walkways

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., root damage, large cracks, improper slope)
- iv. Common safety issues (e.g., trip hazards, slippery surface)

c. Pool and Spa Access Barriers

- i. Applicable safety standards and terminology
- ii. Common safety issues

Task 2: Identify and inspect **building exterior components** to assess defects and issues that may affect people or the performance of the building. (5%)

a. Wall Cladding, Flashing, Trim, Eaves, Soffits, and Fascia

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., water infiltration, decay)

b. Exterior Doors and Windows

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., decayed wood, missing flashings, cracked glass)
- iv. Common safety issues (e.g., safety glazing, sash support)

c. Decks, Balconies, Stoops, Stairs, Steps, Porches, and Applicable Railings

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., improper deck ledger attachment, improper rail or stair construction, missing flashing)
- iv. Common safety issues (e.g., loose handrails and guards, handrails not graspable, uneven riser height)

d. Garage Vehicle Doors and Operators

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., damaged rollers, broken springs)
- iv. Common safety issues (e.g., missing/failing/malfunctioning safety sensors, improper adjustment of pressure reverse)

Task 3: Identify and inspect **roof components** to assess defects and issues that may affect people or the performance of the building. (6%)

a. Roof Coverings

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical repair methods and materials
- iv. Typical defects (e.g., improper installation, cracking, damage, decay)
- v. Characteristics of different roofing materials
- vi. Sheathing and underlayment requirements for different types of roof coverings

b. Roof Drainage Systems

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., ponding, improper slopes, clogging/leaking)

c. Roof Flashings

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., separation, improper installation, missing flashing)

d. Skylights and Other Roof Penetrations

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., leakage, improper installation, deteriorated boot)

Task 4: Identify and inspect **structural components** to assess defects and issues that may affect people or the performance of the building. (4%)

a. Foundation

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modifications, repairs, upgrades, and retrofit methods and materials
- iv. Typical defects (e.g., cracks, settlement) and their common causes and effects
- v. Soil types and conditions and how they affect foundations
- vi. Applied forces and how they affect foundation systems (e.g., wind, seismic, loads)
- vii. Water management (e.g., waterproofing, foundation drains)

b. Floor Structure

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modifications, repairs, upgrades, and retrofit methods and materials
- iv. Typical defects (e.g., improper cuts and notches in structural members, decayed or damaged structural members)
- v. Applied forces and how they affect floor systems (e.g., wind, seismic, loads)

c. Walls and Vertical Support Structures

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modifications, repairs, upgrades, and retrofit methods and materials
- iv. Typical defects (e.g., decayed or damaged structural members, earth to wood contact, structural deformation)
- v. Seismic and wind-resistant construction methods and hardware

d. Roof and Ceiling Structures

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modifications, repairs, upgrades, and retrofit methods and materials
- iv. Typical defects (e.g., moisture stains, sagging rafters, modified/damaged trusses)
- v. Applied forces and how they affect roof/ceiling structures (e.g., wind, seismic, loads)

Task 5: Identify and inspect **electrical systems** to assess defects and issues that may affect people or the performance of the building. (6%)

a. Electrical Service: Service Lateral, Service Drop, Service Entrance, Service Equipment, and Service Grounding

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modifications, repairs, upgrades, and retrofit methods and materials
- iv. Typical defects (e.g., height, deteriorated conductor sheathing)
- v. Electrical service amperage
- vi. Service grounding and bonding
- vii. Common safety issues (e.g., exposed conductors, improper cover fasteners, missing dead front cover)

b. Interior Components of Service Panels and Subpanels

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modifications, repairs, upgrades, and retrofit methods and materials
- iv. Typical defects (e.g., double-tapping, over-fusing)
- v. Panel grounding and bonding
- vi. Panel wiring
- vii. Theory of operation and purpose of over-current protection devices (e.g., circuit breakers and fuses, GFCI, AFCI)
- viii. Inspection safety procedures
- ix. Known problem electrical panel boards (e.g., Federal Pacific/Stab-Lok)
- x. Common safety issues (e.g. open knock outs, discoloration at conductor connections, multiple neutrals under one screw)

c. Wiring Methods

- i. Common types (e.g., non-metallic sheathed cable, conduit), materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modifications, repairs, upgrades, and retrofit methods and materials
- iv. Typical defects (e.g., improper use of or lack of junction boxes, unprotected non-metallic sheathed cable, lack of proper support)
- v. Concerns and considerations about solid-conductor aluminum wiring
- vi. Obsolete electrical wiring system (e.g., knob and tube wiring, cloth-covered NM cable)
- vii. Common safety issues (e.g., open splices, no cable clamps at penetrations, exposed conductors)

d. Devices, Equipment, and Fixtures (e.g., switches, receptacles, lights, fans)

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modifications, repairs, upgrades, and retrofit methods and materials
- iv. Typical defects (e.g., reverse polarity, open equipment grounds, non-functional GFCI or AFCI protection)
- v. Equipment grounding
- vi. Wiring, operation, and location of typical devices and equipment (e.g., receptacles and lights, appliances, ground fault circuit interrupter protection, arc fault circuit interrupter protection)
- vii. Common safety issues (e.g., absence of GFCI)

e. Alternative Energy Systems

- i. Common types, materials, and terminology (e.g., solar, wind)
- ii. Applicable standards and installation methods
- iii. Disconnect location
- iv. Common safety issues (e.g., improper connection to other systems, lack of disconnect method)

Task 6: Identify and inspect **cooling systems** to assess defects and issues that may affect people or the performance of the building. (4%)

a. Cooling

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., suction line insulation missing, condensation and/or rust on components, restriction of air flow at the condensing unit)
- iv. Theory of refrigerant cycle (e.g., latent and sensible heat, air conditioning, heat pumps)
- v. Testing methods
- vi. Condensate control and disposal
- vii. Alternative energies

b. Distribution Systems

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., damaged or disconnected ducts, incorrect installation)

Task 7: Identify and inspect **heating systems** to assess defects and issues that may affect people or the performance of the building. (5%)

a. Heating

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., dirty fan, misfiring oil burner)

- iv. Theory of heating system operation
- v. Testing methods
- vi. Condensate control and disposal
- vii. By-products of combustion (e.g., H₂O, CO₂, CO, NO₂), their generation, and how and when they become a safety hazard
- viii. Common safety issues
- ix. Alternative energies

b. Distribution Systems

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., damaged or disconnected ducts; clogged, missing or damaged filters; leaking pipes)

c. Vent Systems

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., separated vent, back drafting, clearance to combustible materials)
- iv. Theory of vent system operation
- v. Common safety issues

Task 8: Identify and inspect **insulation, moisture management systems, and ventilation systems in conditioned and unconditioned spaces** to assess defects and issues that may affect people or the performance of the building. (4%)

a. Thermal Insulation

- i. Common types, materials, and
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., missing, uneven, or damaged insulation, flame spread concerns, improper clearances)
- iv. Theory of heat transfer and energy conservation
- v. Recommended insulation levels (e.g., R-value)
- vi. Common safety issues (e.g., fire hazards)

b. Moisture Management

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., improper vapor retarder installation)
- iv. Theory of moisture generation, relative humidity, and moisture movement in buildings
- v. Effects of moisture on building components, occupants, and indoor air quality
- vi. Moisture control systems (e.g., humidifiers/dehumidifiers, vapor retarders)

c. Ventilation Systems of Attics, Crawl Spaces, and Roof Assemblies

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods

- iii. Typical defects
- iv. Theory of air movement in building assemblies (e.g., stack effect, pressure differences)
- v. Closed attics and crawl spaces
- vi. Screening, sizing, and location requirements for ventilation openings

Task 9: Identify and inspect **mechanical exhaust systems** to assess defects and issues that may affect people or the performance of the building. (5%)

a. Mechanical Exhaust Systems (e.g., bath, kitchen, dryer)

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modification, repair, upgrade, and retrofit methods and materials
- iv. Typical defects (e.g., improper termination, plastic dryer ducts)
- v. Relationship between mechanical systems and ventilation systems
- vi. Common safety issues (e.g., fire hazards)

b. Indoor Air Management Systems (e.g., heat recovery ventilators)

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modification, repair, upgrade, and retrofit methods and materials
- iv. Typical defects (e.g., inoperative, no bypass ducting)

Task 10: Identify and inspect **plumbing systems** to assess defects and issues that may affect people or the performance of the building. (5%)

a. Water Supply Distribution System

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modification, repair, upgrade, and retrofit methods and materials
- iv. Typical defects (e.g., cross-connection, back flow, dissimilar metals)
- v. Common water pressure/functional flow problems and how they affect the water distribution system (e.g., hard water build-up, old galvanized piping, pressure reducer valves)

b. Fixtures and Faucets

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical modification, repair, upgrade, and retrofit methods and materials
- iv. Typical defects (e.g., leaks, fixture attachment)
- v. Common safety issues (e.g., absence of anti-scald valve, hot/cold reverse)

c. Drain, Waste, and Vent Systems

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods (e.g., supports/spacing)
- iii. Typical modification, repair, upgrade, and retrofit methods and materials (e.g., joining dissimilar piping materials)
- iv. Theory and usage of traps and vents
- v. Identification of public or private disposal (when possible)
- vi. Typical defects (e.g., flex pipe, deterioration, leakage, venting or drain slope)

d. Water Heating Systems

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods (e.g., storage tank, tankless)
- iii. Typical defects (e.g., vent/flue issues, fuel connection and temperature pressure relief system defects)
- iv. Accessory items (e.g., seismic restraints, expansion tanks, recirculation systems)
- v. Connections to and controls for energy source
- vi. Combustion air requirements
- vii. Common safety issues (e.g., no temperature pressure relief valve, missing or improperly connected vents)

e. Fuel Storage and Fuel Distribution Systems

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., missing piping supports, missing shut-off, leaking storage tank)
- iv. Common safety issues

f. Drainage Systems, Sump Pumps, Sewage Ejection Pumps, Related Valves and Piping

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., inoperative sump pump, improperly installed system, broken lid)
- iv. Pump and discharge locations

Task 11: Identify and inspect **interior components** to assess defects and issues that may affect people or the performance of the building. (4%)

a. Walls, Ceiling, Floors, Doors, and Windows, and Other Interior System Components

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects in interior surfaces caused by defects in other systems (e.g., structural movement, moisture stains)
- iv. Typical defects in interior surfaces NOT caused by other systems (e.g., defective operation of doors and windows, damage, absence of safety glazing)

- v. Egress requirements (e.g., window security bar release, basement windows, sill height)
- vi. Applicable fire/safety and occupancy separation requirements (e.g., fire walls, fire rated doors, and penetrations)
- vii. Smoke alarms and carbon monoxide alarms

b. Steps, Stairways, Landings, and Railings

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., improper riser height and tread depth, baluster spacing, loose guards)
- iv. Common safety issues (e.g., loose treads, missing handrails)

c. Installed Countertops and Cabinets

- i. Common types, materials, and terminology
- ii. Applicable standards and installation methods
- iii. Typical defects (e.g., damaged components)
- iv. Common safety issues (e.g., improperly secured cabinets and countertops)

d. Smart Homes

- i. Emerging smart home technologies, applications, terminology and operation

Task 12: Identify and inspect **fireplaces, fuel-burning appliances, and their chimney and vent systems** to assess defects and issues that may affect people or the performance of the building. (6%)

- i. Common manufactured solid-fuel burning fireplaces and solid
- ii. Common manufactured solid-fuel chimney, vent connector, and vent types, materials and terminology
- iii. Common masonry fireplace types, masonry flues, materials, applications, terminology, and installation methods
- iv. Chimney foundation, height, clearance requirements and terminations (e.g., spark arrestors, chimney cap, clearances to combustible materials)
- v. Common gas and liquid-fuel burning appliance types (e.g., vented, direct vent, unvented), vent connector and vent types, materials, and terminology
- vi. Applicable standards and installation methods
- vii. Fuel types, combustion characteristics, and combustion air requirements
- viii. Typical defects (e.g., hearth defects, clearance requirements, smoke chamber and flue issues)
- ix. Operation of equipment, components, and accessories
- x. Common safety issues

Task 13: Identify and inspect common **permanently installed kitchen appliances** for proper condition and operation. (4%)

- i. Applicable standards, installation methods, and terminology
- ii. Basic operation using normal controls
- iii. Typical defects (e. g., inoperative burner, drain loop on dishwasher missing)
- iv. Common safety issues (e.g., absent anti-tip bracket)

DOMAIN 2: ANALYSIS OF FINDINGS AND REPORTING (25%)

Task 1: Inform the client what was inspected and describe building systems and components by their distinguishing characteristics (e.g., purpose, type, size, location). (6%)

- i. Minimum information required
- ii. Describing the type of systems and the location of system components

Task 2: Describe inspection methods and limitations in the inspection report to inform the client what was not inspected and why. (4%)

- i. Minimum and critical information required in an inspection report (e.g., environmental factors, inspection safety limitations, inaccessible areas or components)
- ii. Common methods used to inspect particular components (e.g., walk on roof, observe attic or crawl space from hatch)
- iii. Common and emerging test instruments and their proper use for qualitative analysis (e.g., moisture meters, carbon monoxide meters, infrared cameras)

Task 3: Describe systems and components inspected that are not functioning properly or are defective. (5%)

- i. Expected service life of building and mechanical components
- ii. Common indicators of potential failure (e.g., rust and corrosion, excessive or unusual noise/ vibration, lack of routine maintenance)
- iii. Common defects and their descriptions
- iv. Common safety issues

Task 4: Describe systems and components in need of further evaluation or action. (5%)

- i. Correct professional or tradesperson required to effect repairs or perform further evaluations
- ii. Relationships between components in the building
- iii. When to immediately inform building occupants of a life-threatening safety hazard (e.g., gas leak, carbon monoxide accumulation, exposed energized wires)

Task 5: Describe the implication of defects so that the client understands what could occur if the defects are not corrected. (5%)

- i. Association of related defects or areas where systems interact (e.g., water damaged ceiling with damaged plumbing vent collar above)
- ii. Common defects and their implications

DOMAIN 3: PROFESSIONAL RESPONSIBILITIES (12%)

Task 1: Discuss the elements of and obtain a written inspection contract (e.g., scope, limitations, terms of services) with the client or client's representative to establish the rights and responsibilities of the inspector and client. (7%)

- i. Purpose of a contract
- ii. Elements of a contract (e.g., exclusions and limitations, limits of liability, dispute resolution, jurisdictional requirements)
- iii. Timing of delivery and signing of contract

Task 2: Maintain quality, integrity, and objectivity of the inspection process. (5%)

- i. Fundamental legal concepts (e.g., fiduciary and contractual responsibility, negligence, applicable governing regulations)
- ii. Conflicts of interest (e.g., inspector interest in the property, third-party stakeholders with financial interest in the outcome of the inspection)
- iii. Types and purpose of financial protection (e.g., general liability, professional errors and omissions, warranties)
- iv. Protection of the client's interest

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Content Outline effective April 1, 2024

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DOMAIN 1: PROPERTY AND BUILDING INSPECTION/SITE REVIEW (70%)

Task 1: Identify and inspect **site conditions** to assess defects and issues that may affect people or the performance of the building. (5%)

a. Vegetation, Grade, Drainage and Retaining Walls

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., negative grade, earth to wood contact, poor drainage)
- iv. Common safety issues

b. Driveways, Patios and Walkways

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., large cracks, improper slope, settlement/upheaval)
- iv. Common safety issues (e.g., trip hazards, slippery surfaces)

c. Pool and Spa Access Barriers

- i. Applicable safety standards and terminology
- ii. Common safety issues (e.g., fencing, latches, alarms)

Task 2: Identify and inspect **building exterior components** to assess defects and issues that may affect people or the performance of the building. (5%)

a. Wall Cladding, Flashing, Trim, Eaves, Soffits and Fascia

- i. Common types, materials, and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., missing sections, water infiltration, decay)

b. Exterior Doors and Windows

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., decayed wood, missing flashings, cracked glass)
- iv. Common safety issues (e.g., safety glazing, egress, interior-keyed deadbolt)

c. Decks, Balconies, Stoops, Stairs, Steps, Porches and Associated Railings

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., improper deck ledger attachment, improper rail or stair construction, insufficient/incorrect fasteners)

- iv. Common safety issues (e.g., loose or missing handrails and guards, handrails not graspable, non-uniform riser height/tread depth)

d. Garage Vehicle Doors and Operators

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., damaged rollers, broken springs)
- iv. Common safety issues (e.g., missing/misaligned/malfunctioning obstruction sensors, improper adjustment of automatic reverse)

Task 3: Identify and inspect **roof components** to assess defects and issues that may affect people or the performance of the building. (6%)

a. Roof Coverings

- i. Common types, materials, and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical repair methods and materials
- iv. Typical defects (e.g., improper installation, damage, deterioration)

b. Roof Drainage Systems

- i. Common types, materials, and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., ponding, improper slope, overflowing/leaking)

c. Roof Flashings

- i. Common types, materials, and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., separation, improper material transitions, missing/damaged flashing)

d. Skylights and Other Roof Penetrations

- i. Common types, materials, and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., leakage, improper flashing installation, deteriorated boot/collar)

Task 4: Identify and inspect **structural components** to assess defects and issues that may affect people or the performance of the building. (6%)

a. Foundation

- i. Common types, materials, and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modifications, repairs, upgrades, and retrofit methods and materials
- iv. Typical defects (e.g., cracks, settlement, water entry)
- v. Soil types and conditions and how they affect foundations
- vi. Applied forces and how they affect foundation systems (e.g., seismic, loads, hydrostatic pressure)
- vii. Water management (e.g., waterproofing, foundation drains, sump pumps)

b. Floor Structure

- i. Common types, materials, and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modifications, repairs, upgrades, and retrofit methods and materials
- iv. Typical defects (e.g., improper cuts and notches in structural members, decayed or damaged structural members, undersized columns or pier supports)
- v. Applied forces and how they affect floor systems (e.g., wind, seismic, loads)

c. Walls and Vertical Support Structures

- i. Common types, materials, and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modifications, repairs, upgrade and retrofit methods and materials
- iv. Typical defects (e.g., decayed or damaged structural members, earth to wood contact, lack of fire separation)
- v. Applied forces and how they affect the wall structure (e.g., wind, seismic, loads)

d. Roof and Ceiling Structures

- i. Common types, materials, and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modifications, repairs, upgrade and retrofit methods and materials
- iv. Typical defects (e.g., sagging rafters, modified/damaged trusses)
- v. Applied forces and how they affect roof/ceiling structures (e.g., wind, seismic, loads)

Task 5: Identify and inspect **electrical systems** to assess defects and issues that may affect people or the performance of the building. (7%)

a. Electrical Service (Laterals, Drops, Entrance, Equipment, and Grounding)

- i. Common types, materials, and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modifications, repairs, upgrade and retrofit methods and materials
- iv. Electrical service amperage
- v. Service and equipment grounding and bonding
- vi. Typical defects (e.g., improper grounding, exposed conductors, water entry)
- vii. Common safety issues

b. Components of Service Panels and Subpanels

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modifications, repairs, and upgrade methods and materials
- iv. Panel grounding and bonding
- v. Panel wiring (e.g., color coding, conductor sizing)
- vi. Principles of operation and purpose of protection devices (e.g., circuit breakers and fuses, GFCI, AFCI)
- vii. Inspection safety procedures
- viii. Known problem electrical panel boards (e.g., Federal Pacific/Stab-Lok, Zinsco/Sylvania)
- ix. Typical defects (e.g., double-tapping, over-fusing, loose connections)
- x. Common safety issues (e.g., open knock outs, overheating, multiple neutrals under one screw)

c. Wiring Methods

- i. Common types (e.g., non-metallic sheathed cable, armored cable, conduit), materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modifications, repairs, and upgrade methods and materials
- iv. Considerations related to solid-conductor aluminum branch circuit wiring
- v. Outdated electrical wiring system (e.g., knob and tube wiring, cloth-covered cable)
- vi. Typical defects (e.g., improper use of or lack of junction boxes, unprotected nonmetallic sheathed cable, lack of proper support)
- vii. Common safety issues (e.g., open splices, no cable clamps at penetrations, exposed conductors)

d. Devices, Equipment, and Fixtures

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modifications, repairs, upgrade and retrofit methods and materials
- iv. Equipment grounding and bonding
- v. Wiring, operation and location of typical devices and equipment (e.g., receptacles and lights, appliances, AFCI and GFCI protection)
- vi. Typical defects (e.g., reverse polarity, open equipment grounds, non-functional GFCI or AFCI protection)
- vii. Common safety issues (e.g., absence of AFCI or GFCI, ungrounded receptacle)

e. Alternative Energy Systems (e.g., Solar, Wind, Generator)

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Disconnect location
- iv. Common safety issues (e.g., improper connection to other systems, lack of transfer switch)

f. Electric Vehicle Service Equipment

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Common safety issues

Task 6: Identify and inspect **cooling systems** to assess defects and issues that may affect people or the performance of the building. (4%)

a. Cooling

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods and normal operation procedures
- iii. Principles of refrigerant cycle (e.g., theory of heat transfer, air conditioning, heat pumps)
- iv. Condensate control and disposal
- v. Typical defects (e.g., missing suction line insulation, condensation and/or rust on components, restriction of air flow at the condensing unit)
- vi. Common safety issues (e.g., missing or damaged disconnect, damaged wiring)

b. Distribution Systems

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., damaged or disconnected ducts, dirty air filter, lack of duct support)

Task 7: Identify and inspect **heating systems** to assess defects and issues that may affect people or the performance of the building. (5%)

a. Heating

- i. Common types, materials and terminology

- ii. Applicable construction standards, installation methods, and normal operation procedures
- iii. Principles of heating system operation
- iv. Connections to and controls for energy source
- v. Condensate control and disposal
- vi. By-products of combustion (e.g., H₂O, CO₂, CO, NO₂), their generation and how and when they become a safety hazard
- vii. Typical defects (e.g., dirty fan, misfiring burner, short cycling)
- viii. Common safety issues (e.g., inadequate combustion air, loose flue connections, flame rollout)

b. Distribution Systems

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., damaged or disconnected ducts, clogged, missing or damaged filters, leaking pipes)

c. Vent Systems

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Principles of vent system operation
- iv. Typical defects (e.g., improperly sloped vent, improper vent materials, inadequate clearance to combustible material)
- v. Common safety issues (e.g., back drafting/spillage, separated vent, venting too close to operable window)

Task 8: Identify and inspect **insulation, moisture management systems, and ventilation systems** in conditioned and unconditioned spaces to assess defects and issues that may affect people or the performance of the building. (5%)

a. Thermal Insulation

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Principles of heat transfer and energy conservation
- iv. Recommended insulation levels
- v. Typical defects (e.g., exposed paper backing, improper clearances, inadequate air sealing)
- vi. Common health and safety issues (e.g., excessive moisture, infestations, fire hazards)

b. Moisture Management

- i. Common types, methods, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Principles of moisture generation, relative humidity, and moisture movement in buildings (e.g., attic air bypasses, occupant use)
- iv. Effects of moisture vapor on building components, occupants and indoor air quality
- v. Moisture control systems (e.g., humidifiers/dehumidifiers, vapor retarders)
- vi. Typical causes (e.g., missing or insufficient ventilation, missing/improperly installed insulation)

c. Ventilation Systems of Attics, Crawl Spaces, and Roof Assemblies

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects
- iv. Principles of air movement in building assemblies (e.g., stack effect, pressure differences)
- v. Conditioned/encapsulated attics and crawl spaces

Task 9: Identify and inspect **mechanical exhaust systems** to assess defects and issues that may affect people or the performance of the building. (5%)

a. Mechanical Exhaust Systems (e.g., bath, kitchen, dryer)

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modification, repair, upgrade and retrofit methods and materials
- iv. Relationship between mechanical systems and ventilation systems
- v. Typical defects (e.g., improper termination, plastic dryer ducts)
- vi. Common safety issues (e.g., fire hazards, blockages/obstructions)

b. Indoor Air Management Systems (e.g., heat recovery ventilators, make-up air)

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modification, repair, upgrade and retrofit methods and materials
- iv. Typical defects (e.g., inoperative, no bypass ducting, separated ducts)

Task 10: Identify and inspect **plumbing and fuel distribution systems** to assess defects and issues that may affect people or the performance of the building. (6%)

a. Water Supply Distribution System

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modification, repair, upgrade and retrofit methods and materials
- iv. Typical defects (e.g., cross-connection, dissimilar metals, obsolete materials)
- v. Common water pressure/functional flow problems that affect water distribution system performance (e.g., hard water build-up, galvanized piping, pressure reducing valves)

b. Fixtures and Faucets

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modification, repair, upgrade and retrofit methods and materials
- iv. Typical defects (e.g., leaks, fixture attachment)
- v. Common safety issues (e.g., absence of anti-scald valve, hot/cold reverse)

c. Drain, Waste, and Vent Systems

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical modification, repair, upgrade and retrofit methods and materials (e.g., joining different piping materials, sizing)
- iv. Principles and usage of traps and vents
- v. Differences between public and private disposal systems
- vi. Typical defects (e.g., deterioration, inadequate venting, improper slope)

d. Water Heating Systems

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Accessory items (e.g., seismic restraints, expansion tanks, recirculation systems)
- iv. Connections to and controls for energy source
- v. Combustion air requirements
- vi. Condensate control and disposal
- vii. Typical defects (e.g., vent/flue issues, fuel connection defects, temperature pressure relief valve defects)
- viii. Common safety issues (e.g., lack of temperature/pressure relief valve, missing or improperly connected vents)

e. Fuel Storage and Fuel Distribution Systems

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., missing piping supports, missing shut-off, leaking storage tank)
- iv. Common safety issues (e.g., gas leaks, lack of protective barriers, bonding)

f. Sump Pumps, Sewage Ejector Pumps, Related Valves and Piping

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Pump and discharge locations
- iv. Typical defects (e.g., inoperative sump pump, broken/missing lid, missing check valve)

Task 11: Identify and inspect **interior components** to assess defects and issues that may affect people or the performance of the building. (4%)

a. Walls, Ceiling, Floors, Doors, and Windows, and Other Interior System Components

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects in interior surfaces caused by defects in other systems (e.g., structural movement, moisture stains)
- iv. Typical defects in interior surfaces NOT caused by other systems (e.g., defective operation of doors and windows, damage, absence of safety glazing)

b. Steps, Stairways, Landings, and Railings

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., improper riser height or tread depth, baluster spacing, loose/missing guards)
- iv. Common safety issues (e.g., loose treads, loose/missing handrails, insufficient head clearance)

c. Installed Countertops and Cabinets

- i. Common types, materials and terminology
- ii. Applicable construction standards and installation methods
- iii. Typical defects (e.g., missing knobs, damaged surfaces, loose doors/drawers)
- iv. Common safety issues (e.g., improperly secured cabinets and countertops, unsecured islands)

d. Installed Kitchen Appliances

- i. Applicable construction standards, installation methods and terminology
- ii. Basic operation using normal controls
- iii. Typical defects (e.g., inoperative burner, incorrectly installed dishwasher drain loop, disposer/disposal wiring connection issues)
- iv. Common safety issues (e.g., missing anti-tip bracket, combustible clearances, lack of dedicated circuit)

e. Smart Home Technology

- i. Emerging smart home technologies, applications, terminology and operations (e.g., electrical, plumbing, and HVAC)
- ii. Common defects and potential issues (e.g., improper installation, obsolete devices)
- iii. Considerations and limitations related to inspecting homes with smart technology

Task 12: Identify and inspect **fireplaces, fuel-burning appliances, and their chimney and vent systems** to assess defects and issues that may affect people or the performance of the building. (6%)

a. Solid Fuel-burning (e.g., wood, pellet, coal) Fireplaces and Appliances

- i. Common types, materials (manufactured, masonry) and terminology
- ii. Common solid fuel chimney, vent connector, vent types, materials and terminology
- iii. Common masonry fireplace types, masonry flues, materials, applications, terminology and installation methods
- iv. Chimney foundation, height, clearance requirements and terminations
- v. Applicable construction standards and installation methods
- vi. Fuel types, combustion characteristics and combustion air requirements
- vii. Operation of equipment, components and accessories
- viii. Typical defects (e.g., hearth defects, clearance requirements,

smoke chamber and damper/flue issues)

- ix. Common safety issues (e.g., creosote buildup, lack of spark arrestors, damaged firebox)

b. Gas and Liquid Fuel-burning (e.g., natural gas, propane) Fireplaces and Appliances

- i. Common types, materials (vented, direct vent, unvented) and terminology
- ii. Common gas and liquid fuel chimneys, vent connectors, vent types, materials and terminology
- iii. Common masonry and manufactured fireplace types, flues, materials, applications, terminology and installation methods
- iv. Chimney height, clearance requirements and terminations
- v. Applicable construction standards and installation methods
- vi. Fuel types, combustion characteristics and combustion air requirements
- vii. Operation of equipment, components and accessories
- viii. Typical defects (e.g., improper clearance, lack of fuel shut-off, soot stains at exterior)
- ix. Common safety issues (e.g., missing/damaged damper stop, incomplete combustion, improper venting)

Task 13: Identify and inspect common **life safety equipment and systems** to assess defects and issues that may affect people or the performance of the building. (6%)

- i. Egress requirements (e.g., window security bar release, basement windows and doors, sill height)
- ii. Applicable fire/safety and occupancy separation requirements (e.g., fire separation walls and ceilings, fire-rated doors and penetrations)
- iii. Smoke alarm and carbon monoxide alarm placement
- iv. Fire suppression/sprinkler systems defects (e.g., painted or blocked sprinkler heads, low pressure)

DOMAIN 2: ANALYSIS OF FINDINGS AND REPORTING (20%)

Task 1: Inform the client of what was inspected, the methodologies used, and describe building systems and components by their distinguishing characteristics (e.g., purpose, type, size, location). (4%)

- i. Minimum and critical information required in inspection report
- ii. The type of systems and the location of system components
- iii. Common methods used to inspect particular components (e.g., walk on roof, observe attic or crawl space from hatch)
- iv. Common and emerging test instruments and their proper use (e.g., moisture meters, carbon monoxide meters, infrared cameras)

Task 2: Describe the limitations in the inspection report to inform the client what was NOT inspected and why. (4%)

- i. Common limitations (e.g., environmental factors, inspection safety limitations, inaccessible areas or components)
- ii. Limitations of a visual inspection
- iii. Limitations of inspection due to presence of smart and emerging technology

Task 3: Describe systems and components inspected that are not functioning properly or are defective. (6%)

- i. Expected service life of building and mechanical components
- ii. Common indicators of potential failure (e.g., rust and corrosion, excessive or unusual noise/vibration, lack of routine maintenance)
- iii. Common defects and their descriptions
- iv. Common safety issues
- v. Implications of what might occur if identified defects are not repaired

Task 4: Describe systems and components in need of further evaluation or action. (6%)

- i. Qualified professional or tradesperson required to complete repairs or perform further evaluations
- ii. Relationships between components in the building
- iii. Life-threatening safety hazards that warrant immediate action (e.g., gas leak, carbon monoxide accumulation, exposed energized wires)

DOMAIN 3: PROFESSIONAL RESPONSIBILITIES (10%)

Task 1: Discuss the elements of and obtain a written pre-inspection agreement (e.g., scope, limitations, terms of services) with the client or client's representative to establish the rights and responsibilities of the inspector and client. (5%)

- i. Purpose of a pre-inspection agreement
- ii. Typical elements of a pre-inspection agreement (e.g., exclusions and limitations, limits of liability, dispute resolution)
- iii. Considerations related to privacy
- iv. Timing of delivery and signing of pre-inspection agreement

Task 2: Maintain quality, integrity and objectivity of the inspection process. (5%)

- i. Fundamental legal concepts (e.g., contractual responsibility, negligence, applicable governing regulations)
- ii. Conflicts of interest (e.g., inspector interest in the property, third-party stakeholders with financial interest in the outcome of the inspection)
- iii. Types and purpose of financial protection (e.g., general liability, errors and omissions insurance warranties)
- iv. Protection of the client's interest (e.g., privacy of information, presence of cameras or listening devices, report confidentiality)