

# ISS – HOME INSPECTOR TRAINING PROGRAM

## SYLLABUS: ISS102 – Electrical

### INSTRUCTIONAL GOALS

This course provides an overview of electrical terms, materials and systems as they apply to residential dwellings. Emphasis will be placed on the identification of proper installation techniques, including the application of the appropriate code. Identifying incorrect installations, significant defects and making recommendations to resolve the problem(s) is included.

### LEARNING OUTCOMES (NOS = National Occupational Standard for Home and Property Inspector)

Learning outcomes are clear statements of the critical/essential knowledge, skills and attitudes that a student is required to demonstrate to indicate successful completion of this course. Upon successfully completing the course the student will be able to:

- Explain electrical theory
- Visually Inspects exterior service entrances (NOS F1)
- Identifies type of service entrance systems (NOS F1.01)
- Visually inspects compatibility of service entrance components (NOS F1.02)
- Visually inspects condition of service entrance (NOS F1.03)
- Document inspection findings (NOS F1.04)
- Visually Inspects main service panel (NOS F2)
- Identifies type of main disconnect (NOS F2.01)
- Visually inspects condition of main panel (NOS F2.02)
- Identifies size of disconnect and service panel (NOS F2.03)
- Identifies type of over-current protection device (NOS F2.04)
- Determines compatibility of wire size with fuses/breakers (NOS F2.05)
- Visually inspects existence and condition of grounding (NOS F2.06)
- Document inspection findings (NOS F2.07)
- Visually inspects distribution system (NOS F3)
- Identifies type of wiring (NOS F3.01)
- Identifies size of disconnect and wire at sub-panels (NOS F3.02)
- Visually inspects condition of sub-panels (NOS F3.03)
- Visually inspects branch circuit wiring (NOS F3.04)
- Document inspection findings (NOS F3.05)
- Visually Inspects outlets, switches and fixtures (NOS F4)
- Observes and operates fixture switches (NOS F4.01)
- Visually inspects and tests receptacles (NOS F4.02)
- Tests ground fault circuit interrupters/arc-fault circuit interrupters (NOS F4.03)
- Visually inspects condition of fixtures (NOS F4.04)
- Identifies absence of smoke, CO detectors
- Document inspection findings (NOS F4.05)

### COURSE CONTENT

- Electrical Units
- Electrical Systems
- Servicing
- Overhead Services
- Underground Services

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- Distribution Equipment
- Service Grounding
- Ground Fault and Arc Fault Circuit Interrupter
- Wiring Methods
- Standards of Practice
- Defect Recognition / Analysis

## NEEDS AND RESOURCES

### Required Background

To successfully complete this course, you must have a completed ISS100 – Intro to Home Inspection

- How to use a computer
- How to use a web browser to connect to the course site
- How to send and respond to email messages
- How to use Skype

### Recommended Materials

- Canadian Electrical Safety Code (latest edition)
- Electrical Code Simplified - PS Knight

### Online Resources

- Online course notes
- Referenced technical papers specified in the course

## COURSE SCHEDULE

This is an 80-hour course. This online course is based on a maximum of 14 weeks duration for completion. This course includes instructor led webinars, quizzes, and/or assignments, activities and a final exam. This course contains 28 hours of Skype/webinar based interaction required to complete the course. In-class sessions are scheduled for an 80-hour contact format.

## POLICIES AND PROCEDURES

### General Rules:

It is expected that the individual student must perform all work. Any student having an academic concern or questioning an academic decision should first discuss the matter directly with their course instructor; if the issue is not resolved then with the ISS Program Coordinator. The ISS Program Coordinator's decision is final. Further information may be found on the Inspection Support Services webpage and a link to ISS Education Policy.

### Communication:

One of the first things we would like you to do, when you are enrolled is to send your course instructor an email that indicates a little info about who you are and where you live. This will be used as your main point of contact for communications. This also gives the instructor a better idea regarding scheduling webinars. Upon enrollment our Program Administrator will provide you with your Instructors contact email.

### Webinar Attendance Policy:

The **Direct Instruction** is a critical part of the course delivery. As such and based on studying various types of “best practices” for course delivery. Note that a portion of your grades accounts for what we deem as \*mandatory participation in the scheduled webinars. This is keeping with the regulations primarily set by Consumer Protection

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BC Home Inspector educational program approved for the purposes of Section 3(3)(a) of the Home Inspector Licensing Regulation (“HILR”).

## **Grading:**

Students will be evaluated as follows: (Activity & Assessment Percentage)

\*Webinars = 28% (1% per webinar hour)

Assignments = 12%

Term Tests (2 @10%) = 20%

Final Exam = 50%

Supplemental evaluations are not available in this course, unless extraordinary, documentable circumstances have prevented a student from participating in scheduled course activities. All applications for a supplemental are made to the course instructor.

## **Final Exam:**

The final course exam must be completed within 3 weeks of the scheduled course completion date. All exams for online courses must be independently proctored\*\*. (Refer to the Proctoring Document\*\* available on the “Program” website.)

## **Grading Scale:**

A passing grade in this course is a minimum of 70%. Note that some inspection associations and/or provincial regulations for licensing home inspectors require 80% as their minimum.

## **Course Copyright:**

All course materials students receive or have access to are protected by Copyright Laws. Students may use these materials strictly for their training, but any type of unauthorized distribution and/or transfer is prohibited.

## **Disclaimer:**

Please note that the specifics of this course may be modified from time to time, due to changes. While every effort is made by the instructor to cover all content material listed in this outline, the order, content and/or evaluation may change as a result of special circumstances (e.g. technology/equipment problems and/or changes, etc.). In any such case, every effort will be made to make appropriate adjustments to the course delivery. These include reference to web links or changes due to updates within the home inspection sector. Students will be advised by email directly when and if changes do occur.

## **Schedule of Topics, Readings & Direct Instruction Webinars**

This schedule provides an outline of the main topics for this course and during which week they will be addressed. Characteristics of the webinars can vary in a number of different types of formats such as discussions, lectures, presentations and question and answer style deliveries.

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## ISS102 Electrical (28 hours of webinar based delivery) \*TOTAL Direct Instruction

Week	Topic	Reference Module	Hours	*DI Hrs
1	Intro & Course Orientation	Overview	3	2
2	Electrical Regulations, Deficiencies & Upgrades		4	2
3	Electrical Systems – Created Transmitted & Used	Electrical Units, Circuits, Electricity Generation, Safety	6	2
4	Servicing – Grounding System	Bonding, Grounding, Neutral	6	2
5	Overhead Services – Methods of Grounding	Main components, Overhead, Underground, Service Conduits, Meter base	5	2
6	Service Disconnect & Service Sizes	Disconnect Panels, Types, Grounding & Bonding, Service Sizes	6	2
7	Specialized Installations	Main service, Layout & Connections, Wire sizing, Conductors, Neutral size, Voltage drop, Fuse panels, Circuit Breaker panels, Sub-panels, AFCI/GFCI	8	2
8	Low Voltage Systems	Systems, Heat & Smoke Detectors, Code references	6	2
9	How to Inspect the Electrical System	Reporting, Personal Safety, Adequacy & Function	6	2
10	Electrical Report	Electrical Project & SOP	8	2
11	Defect Recognition/Analysis		4	2
12	Case Studies 1	Photos & Legal Case Study	6	2
13	Case Studies 2	Photos	4	2
14	Exam Prep & Review	Instructor Led Review, Q&A	4	2
15	Practical Project	Instructor Feedback	4	
			80	28

### NOTE:

- ISS100 provides an introductory overview of home inspections.
- Although the Direct Instruction hours appear to be directed at the topic of that week, it also includes discussion on previous topics as part of a review and reinforcement process.
- Topics are subject to minor changes from time to time, but course content does not change.