Education Program
Foundational Courses and Masterclasses

“As any builder or architect will tell you, it takes intention and good planning to achieve this invisible comfort in the places where we live and work. It is an art, a science, and – more than ever – an imperative.”

SOURCE: BUILD SMART CANADA’S BUILDINGS STRATEGY

For details and registration, visit
passivehousecanada.com/training
Leaders in Passive House design and construction training

Since 2013, we have trained thousands of industry professionals, tradespeople, planners and members of the public in Passive House design and construction. We continually update and revise courses to reflect advances in technology and knowledge about the high-performance Passive House Standard in Canada and internationally.

Our instructors are industry professionals with a wide array of skills, knowledge and experience related to the Passive House Standard. As a national organization, we also offer courses in French.

Join the growing community of industry leaders who are transforming our built environment for the better.

In-house custom training

We work with local governments and architectural and engineering firms across Canada that want customized in-house Passive House training. We tailor content to ensure your team has the skills and knowledge required to deliver the buildings of tomorrow today.

Whether you’re a designer, architect, planner, builder, policy maker or homeowner, we have a course to suit your desired skills and knowledge level.

Professional development learning credits

Our courses are accredited with several professional associations across Canada. Most of our masterclasses qualify for Passive House Institute credit points towards certification renewal.

Which course is right for you?

- If you are looking for an introduction to the concept of Passive House design, we recommend the one-day 110: Introduction to Passive House High-Performance Buildings.
- If you want a more detailed introduction and a more complete understanding of the Passive House Standard, we recommend the four-day 120A: Passive House Design and Construction.
- If you are planning to take the Certified Passive House Designer/Consultant exam or design a Passive House building, you will need to take the three-day 120B: Understanding and Working with the Passive House Planning Package (PHPP).
- 120C: Exam Preparation for Passive House Designer/Consultant Exam prepares you to write the Certified Passive House Designer/Consultant exam. This course is offered in class or as a self-paced online module.
- If you are a tradesperson or building contractor, the five-day Passive House Trades Course has been developed to provide the knowledge and practical skills required to build to the Passive House Standard.
- If you wish to deepen your knowledge of designing and building to the Passive House Standard, we offer several Passive House masterclasses.

The Passive House Standard is recognized internationally as the proven best way to build for comfort, affordability and energy efficiency in residential, institutional and commercial buildings.
110: Introduction to Passive House High-Performance Buildings

This one-day course provides an overview of the core principles of Passive House design and building energy-efficiency regulations in Canada. This course also covers the history of energy-efficient buildings, energy-consumption data and environmental impact, case studies, and the economics of high-performance buildings.

Recommended for:
Anyone wishing to understand the basics of Passive House high-performance buildings, including homeowners, developers, project coordinators, realtors, subcontractors, component suppliers, architects, engineers, architectural technologists and other design professionals.

Note: this introductory course does not provide the technical knowledge necessary to design and build a Passive House building. If you are ready to take on a Passive House project, we recommend 120A: Passive House Design and Construction.

120A: Passive House Design and Construction

This four-day course covers the technical, economic and policy elements of Passive House buildings. Participants learn how to apply Passive House principles in the context of building physics, windows and mechanical systems.

Recommended for:
Building industry professionals and those involved in the design and construction of Passive House buildings or EnerPHit (retrofit) projects, including architects, engineers, design professionals, site supervisors, general contractors, building inspectors, city planners, homeowners, investors, and suppliers of high-performance building materials.

120B: Understanding and Working with the Passive House Planning Package (PHPP)

This three-day course provides the tools to prepare you for your first Passive House project. It provides step-by-step instruction for using the Passive House Planning Package (PHPP) energy modelling software, which is essential for designing a Passive House building.

Recommended for:
Those directly involved in the design, construction and energy modelling of Passive House buildings, including architects, engineers, energy modelers, and design professionals, and anyone pursuing the Certified Passive House Designer/Consultant designation.

120C: Exam Preparation for Passive House Designer/Consultant Exam

This exam-preparation course is designed for those who have completed courses 120A and 120B (or equivalent), and wish to write the exam to become a Certified Passive House professional. This course is available online or in class.

Note: both the in-class and online modules review the exam material but contain different sample test questions and exercises.

Certified Passive House Designer/Consultant Exam

There are two ways to become a Certified Passive House Designer or Consultant: by successfully completing a certified Passive House project or by passing the standardized international exam. Exam dates are fixed by the Passive House Institute (PHI) and offered by Passive House Canada in cooperation with PHI. It is not recommended that you attempt the exam without first taking courses 120A, 120B and 120C.

Note: to write the exam, you must have your own PHPP software and registration number, sold separately.

Passive House Tradesperson Course

This five-day course provides the knowledge and practical skills building contractors need to build to the world’s most energy-efficient standard. The course focuses on building enclosure optimization, and provides a foundation in Passive House principles, while stressing the importance of construction fundamentals and proper sequencing. Participants learn building techniques that minimize thermal bridging, maximize airtightness, while using a variety of materials. An introduction to common Passive House mechanical systems is provided, including heat and energy recovery ventilators, heat pumps, and solar thermal. The course takes place in a lab/classroom and includes a blower door test.

Participants should have prior construction knowledge and experience.

For details and registration, visit passivehousecanada.com/training
Passive House Masterclasses

200: Building Enclosures for High-Performance Buildings

This one-day course provides an in-depth discussion of high-performance building enclosures for North American buildings, including single-family homes and large commercial buildings, with a focus on walls, roofs and window systems. Case studies demonstrate how innovative building enclosures have been integrated into various projects ranging from mid-rise wood-frame buildings and prefabricated Passive House buildings to towering wood, concrete and steel structures.

Prerequisites:
General understanding of building design and construction, including vapour barriers, insulation values, etc.

220: Passive House Design for Multi-Family Buildings

This one-day course explores topics specific to multi-family Passive House buildings, including mixed-use buildings.

This course has a strong focus on how to model particular aspects in PHPP, including thermal bridging and service penetrations. Ventilation requirements and options are explained in detail. Case studies demonstrate how multi-family projects are being realized in Canada.

Topics covered include: ventilation requirements and options, mixed-use buildings, certification options, working with multiple PHPPs, TFA calculation, cladding penetrations, 3D thermal bridges, curtain walls, kitchen & dryer exhaust and parkades.

Prerequisites:
A solid understanding of the Passive House Planning Package (PHPP) is required and the course is taught assuming participants are already familiar with PHPP. It is strongly recommended that participants have already taken courses 120A and 120B.

230: PHPP v9 Masterclass

This one-day course reviews the major changes in the latest Passive House Planning Package (PHPP) software and explores advanced features such as the Primary Energy Renewable (PER) assessment method and the new Certification Classes. Participants will learn how to use the new variants tool to compare different designs, identify and rectify errors in PHPP worksheets, and assess the economic viability of whole building design or individual measures.

Prerequisites:
A solid understanding of the Passive House Planning Package (PHPP) is required and the course is taught assuming participants are already familiar with PHPP. It is strongly recommended that participants have already taken courses 120A and 120B.

240: designPH Masterclass

designPH was developed to simplify the design process for achieving the Passive House Standard. The designPH plug-in for SketchUp provides a 3D modeling interface that works together with the Passive House Planning Package (PHPP). Users can create a building model, assign building components, and select a location. Once a compliant design is achieved, key building characteristics can be exported for integration into PHPP.

In this two-day masterclass, participants will learn how to use designPH for the design and certification of Passive House buildings. Participants will be guided step-by-step through the building design process, from building-model creation to exporting to PHPP.

Prerequisites and course requirements:
A solid understanding of the Passive House Planning Package (PHPP), a laptop with recent versions of PHPP, Google SketchUp, designPH, and MS Excel (or equivalent), all preloaded.

250: Thermal Bridging Calculations

In this two-day masterclass, participants will learn the fundamentals of thermal bridging calculations for wood-framed construction and gain a better understanding of heat loss in buildings due to thermal bridging. Basic commands and modelling techniques using THERM (the software program that models steady-state, two-dimensional heat transfer problems) to quantify the degree of thermal bridging at junctions will be explained.

Prerequisites:
Participants should be familiar with Excel and with basic building heat-loss calculations. They will also require a laptop with THERM 7 preloaded, MS Excel (or equivalent), a calculator, pencil and notepad for sketching.

Questions? Email us at training@passivehousecanada.com, or call 778.265.2744

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