OVERVIEW

The term passive house (from German Passivhaus) refers to a rigorous design and building standard that focuses on the building envelope and results in cost-effective, low energy homes, with less complex heating and cooling systems. The Passive House standard has grown rapidly since its inception, with now over 40,000 homes worldwide having been built to its specifications.

This one-day course will explore how the Passive House Standard can be a cost-effective way to design and construct a building that is extremely energy efficient. Attendees will leave this course with a fundamental understanding of the elements of the Passive House Design. They will also have had the opportunity to explore the business case for designing and building to the Passive House Standard, including total costs and long-term energy savings.

This course is aimed at anyone involved in sustainability or energy efficiency in the built environment, but especially:

- Builders of multifamily buildings and commercial buildings;
- Designers and consultants working on commercial building projects;
- Architectural and engineering companies who wish to address the energy or environmental needs of residential and commercial clients; and
- Municipal officials who wish to forge a path beyond current building codes.

Course instructor, Dr. Guido Wimmers, is an energy efficiency specialist who has worked as an architect and independent consultant, in Austria, Italy, and Canada. He was one of the initiators of the first Canadian passive house, the Austria House for the Olympics in Whistler, and is currently working on the next extremely energy efficient buildings in B.C.

COURSE DESCRIPTION

This intensive one-day course provides participants with an overview of the key principles and concept of the Passive House Standard. The course will address the fundamentals of the following topics:

- Passive house design fundamentals;
- Super insulated envelopes;
- Methods for achieving extreme air tightness;
- Passive house quality windows;
- Leading ventilation design principles; and
- Passive house economics and costs, including how to save up to 90% in energy costs and what to consider when conducting an economic comparison.

Participants will have the opportunity to interact with our expert instructor and other participants through large group discussions and networking breaks. Finally, a variety of projects will be showcased, demonstrating how the Passive House Standard can be applied in Canada and around the world.
Introduction to Passive House Design and Construction

There are no formal pre-requisites for this course. However, due to the technically challenging nature of Passive House design, it is important that participants have a sound knowledge of contemporary Canadian construction techniques, as well as some building science background.

- Define the major criteria of the Passive House Standard;
- Rank and assess the impact of energy consumption on the environmental performance;
- Specify appropriate envelope components;
- Differentiate between Passive House suitable windows and estimate the overall impact on the energy efficiency;
- Formulate efficiency requirements for ventilation and heating systems; and
- Identify the multiple long-term benefits of the Passive House Standard.

Participants have the opportunity to learn about the Passive House Standard from an expert instructor who has applied the Passive House Standard in Canada and internationally. He will share how energy efficient residential buildings can be built so that they have lower operating costs, but still provide increased occupant comfort.

Participants will learn how integrated passive design strategies can be used to decrease the need for complex mechanical systems, while leaving more space for living.

Finally, participants will also learn and be able to discuss the return on investment associated with building to the Passive House Standard.

CaGBC is a proven expert in the field of green building training, with thousands of individuals having taken a variety of CaGBC courses. Our in-class courses provide current and relevant information, while our faculty are selected experts with practical industry experience who are able to provide in-depth knowledge and real-life examples.

Level 200, 7 GBCI CE hours

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For more information, call the CaGBC at 613.241.1184 or toll-free at 1.866.941.1184, or please contact us at education@cagbc.org.

If you or your company is interested in having an on-site private workshop, please contact Lisa Hatina at 1.866.941.1184, ext. 1068, or via email at lhatina@cagbc.org.