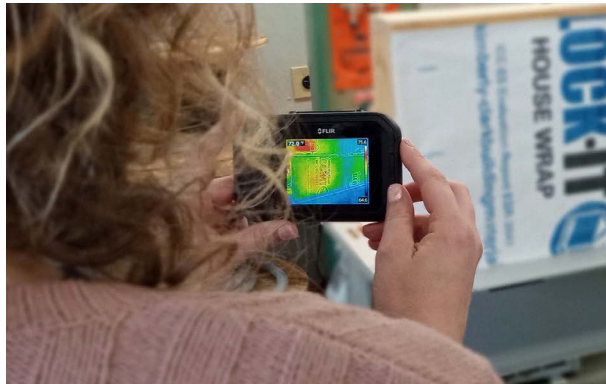


# COURSE OFFERINGS



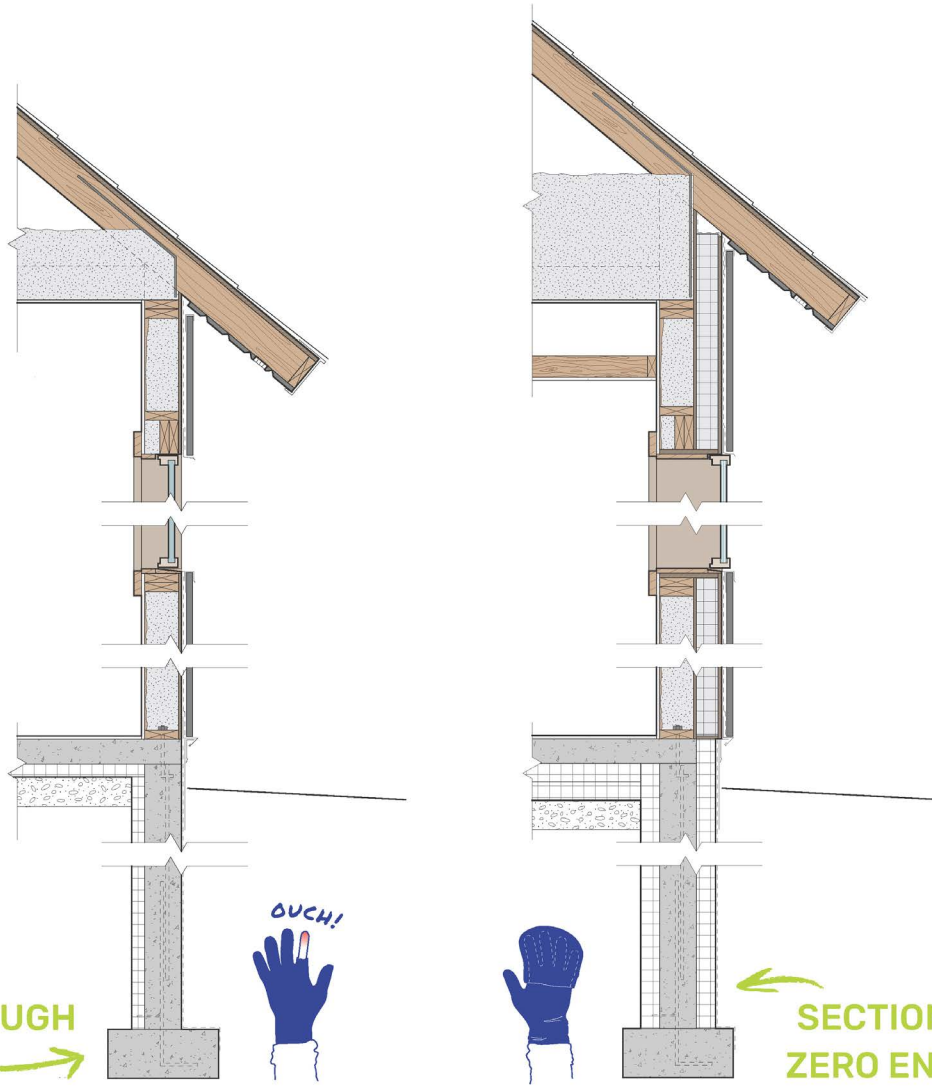
*Tools for the Trades  
to Build Green.*

Issued 01/30/24



**JUST  
HOUSING**

Just Housing SBC  
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SECTION THROUGH  
CODE WALL →

← SECTION THROUGH  
ZERO ENERGY WALL

*Our teaching methods and materials are accessible, relating building science and green construction to real life examples.*

# WELCOME!

Nearly 40% of annual energy consumption and CO2 emissions come from buildings, half of that from our homes. We can and must transform the housing industry to build green by building right for health, durability, energy conservation and efficiency, and long-term affordability.

We can't improve societal health or environmental impact if green solutions are only available to wealthy people. Widespread access to better housing and better jobs benefits the community overall.

**We can help mitigate climate change and social injustice by creating widespread access to green homes and green jobs that are healthy for people and healthy for the planet.**

## ABOUT OUR CURRICULUM AND TRAINING

Training content and methods are informed by our experience in design, construction, community development, higher education, workforce training, building science, energy analysis, environmental impact, sustainability and equity.

Curriculum emphasizes both the theory and practice of green building. Courses and materials are designed to engage a diverse range of participants, and is relevant and useful to both beginners and experienced practitioners.

Training is offered in a variety of formats: classroom, field studies, "shop talks", videos, and hands-on activities. Courses can be taught in succession or individually depending on your needs. **We can work with your organization to tailor a selection of coursework and a schedule specific to your priorities and focus.**



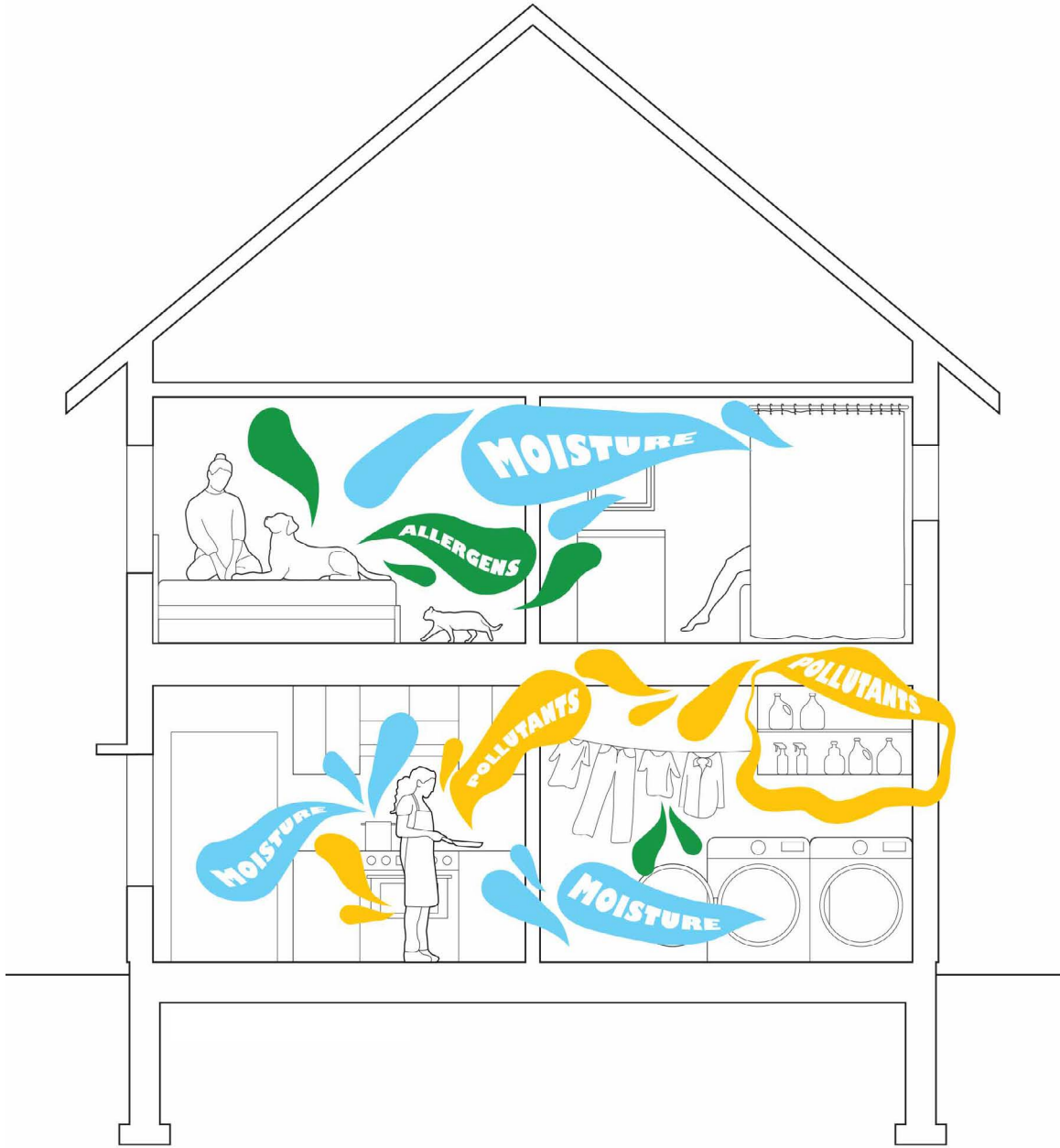
*Above: program participants competing in the "Build a Wall" competition.*

*Below: Instructors Josh VandeBerg and Rachel Wagner and project coordinator Leah Karmaker*

## WHO WE ARE

Our team members bring a wide-ranging and diverse array of skills and expertise to the curriculum development and direct training we offer. We share a passion for learning, teaching, and social justice. Each of us also brings personal perspective not of the mainstream, which we believe increases our compassion and connection to those we teach.



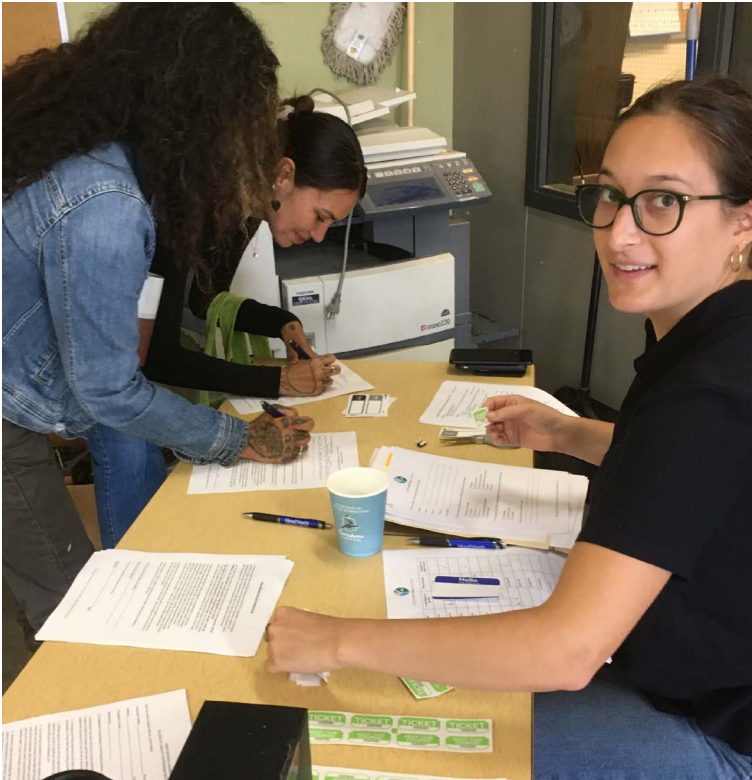


*“Occupants as a System” diagram from Systems Thinking and Integrated Design class.*

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## WHAT IS GREEN BUILDING (AND WHY SHOULD I CARE)?

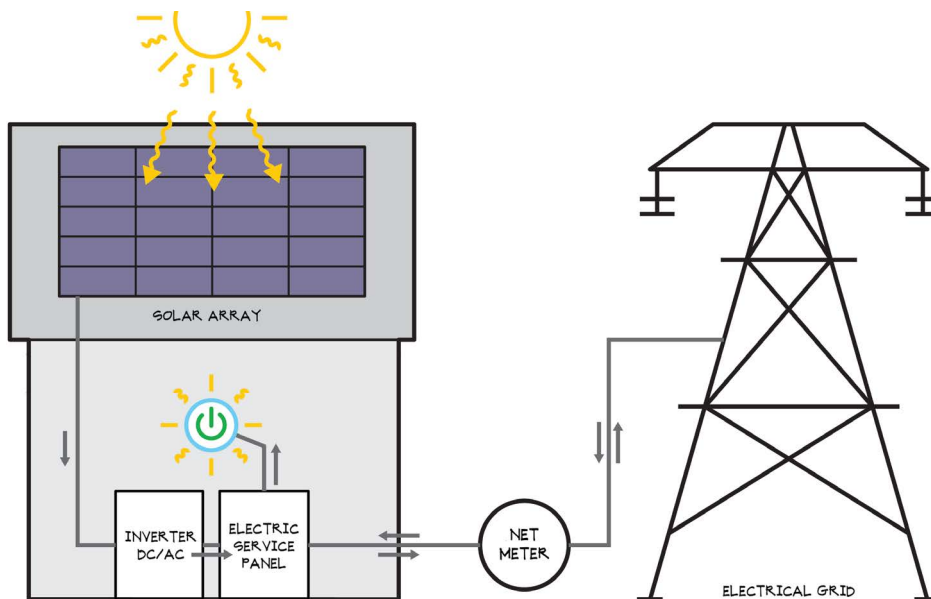
Hours: 2  
CEU'S: 2  
Level: Introductory

**Course description:** This class is a prequel to Laying the Groundwork for Sustainable Housing, intended for students with little to no exposure to design or construction. The word “green” is often used to describe (or sell) something as better, environmentally responsible, healthy, or safe. But what does that really mean? We get specific about defining and exploring what “green” really means and why it’s important. We then look at how these concepts relate to housing, what makes a home green, and why it matters for everyone.

## GOOD ENERGY

Hours: 2  
CEU'S: 2  
Level: Introductory

**Course description:** “I’m tired. I don’t have any energy.” Energy is something we sometimes only recognize when we don’t have it. Our bodies require energy to function. So do our cars, phones, and so much more, including our buildings. This course introduces basic concepts of energy, including common terms used to define or measure energy. It also explores the importance of energy used in buildings, and considers the implications of how much energy we use and where it comes from.





## MAKING CHANGE THROUGH DESIGN

Hours: 1.5

CEU's: Pending

Level: Introductory

**Course description:** What is design? How is it accomplished? This course offers an introduction to design thinking as a method of creative problem solving that produces tangible ideas and actionable solutions. Through design thinking, we can tackle anything, not just the built environment. It can be applied to public policy, criminal justice reform, educational strategy, environmental challenges, advocacy campaigns and more.

Design thinking can be shared, taught, and transferred from person to person, or from one aspect of a project to a broader application. It can be a powerful personal force, helping individuals, organizations and communities when they are “stuck.”

In this course, participants will begin to use the process of design thinking. This tool can guide effective change to help address pressing cultural, social, economic, and environmental issues.

# LAYING THE GROUNDWORK FOR SUSTAINABLE HOUSING

A four part introductory or continuing education course for students, tradespeople, apprentices, and professionals who are interested in and/or invested in stronger, smarter and greener homebuilding. This course is a prerequisite for all advanced coursework and field studies.

Total Hours: 10

CEU's: Available

Prerequisites: Good Energy

Level: Intermediate - Advanced

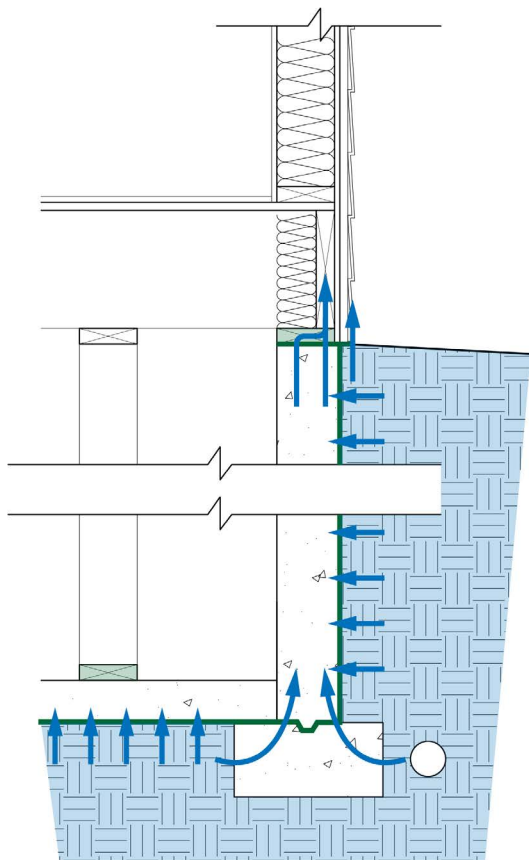
## Part 1: Houses, Health, and Environmental Impact

Hours: 2.5

CEU's: 2

**Course description:** The way we build matters. What and how we build directly impacts the people who construct the buildings, those who occupy buildings, and those who maintain and operate the buildings. It also impacts the collective health and welfare of the communities where we live and beyond.

Houses are of particular importance, not least because many of us spend more time in our home than any other building. The societal, health-related, and environmental implications connected to housing point to a widespread need to change how we view and build housing.



## Part 2: Building Science - what is it and why does it matter?

Hours: 2.5

CEU's: 2

**Course description:** Building science draws upon physics, chemistry, engineering, architecture, and the life sciences. It is concerned with explaining and understanding the physical behavior of a building in response to the forces that act upon it.

Central to this field is the study of heat, air, and moisture; in particular, the response to and interactions between these elements outside and within the building enclosure. These responses and interactions impact building durability, energy use, occupant comfort and indoor air quality. An understanding of building science is essential to creating high-performance green buildings.



### Part 3: Systems Thinking and Integrated Design

Hours: 2.5  
CEU's: 2

Course description: In design and construction, aspects of the whole are often considered and developed separately, without regard for the interdependent and interacting mechanisms between the separate parts of the whole.

Systems Thinking describes the idea of seeing the “whole” as sets of things working together as parts of an interconnected network.

Integrated Design is a process utilizing systems thinking. It requires thinking across disciplines and a constant consideration of the interactive nature of people, materials, spaces, systems, and forces on a site and a building during design, construction and operation throughout the life of the building. Done well, the whole can be greater than the sum of its parts; done poorly (or not considered), the whole can be far less than the sum of its parts.

*Systems Thinking and Integrated Design connect theory and practice. Used together, they provide a fundamental paradigm and approach for better buildings.*



### Part 4: When are we gonna talk about green housing?

Hours: 2.5  
CEU's: 2

Course description: A simple definition: It's healthy. It's durable. It uses little-to-no fossil fuels. It's accessible.

Taking these concepts, we expand and synthesize them to define some fundamental parameters of green building, for creating the kind of homes we need to be building here and now. We also look to case studies for examples of what might work and what presents challenges.



# LANGUAGE OF BLUEPRINTS

Hours: 6 hours, plus field studies

CEU's: Pending

Level: Introductory

**Course description:** Construction documents, often called “blueprints,” contain the drawings and supporting information used to construct a building. Learning to read and understand blueprints is a lot like learning a new language. This class introduces the “language” of blueprints, with an emphasis on residential construction (houses). Course content includes the organization of a set of construction documents; recognizing and interpreting drawing types, symbols and abbreviations; and understanding scale and dimensions. Participants will also learn how blueprints are used for much more than just building.

This course may be a prerequisite to the Blueprints for Green Homes series depending upon the participant’s knowledge and experience.



# BLUEPRINTS FOR GREEN HOMES

Hours: 3 hours (with optional field study)

CEU's: Pending

Level: Intermediate - Advanced

**Course description:** A good set of construction drawings (aka blueprints) can contribute to the durability, beauty and performance of a building. It can also contribute to the ease, enjoyment and profit of the builder. Creating a good set of construction drawings takes knowledge, time, effort, care and practice. Reading, interpreting and utilizing a good set of construction drawings well takes knowledge, time, effort, care and practice.

This class offers a deep look at the content and organization in residential construction documents created to optimize the green criteria of health, durability, low energy/fossil fuel consumption, and accessibility. Participants compare a set of blueprints created for a zero net energy home with a set of blueprints for a code-built home. Discussions include the identification of details for water management, air sealing, ventilation, thermal control, and occupant comfort; and what to do when those details are problematic, insufficient, or missing entirely. Participants also explore opportunities to suggest changes or additions to blueprints to offer enhancements that might deepen the “green” impact of a project.

## SHOP TALK

Hours: 1-2 (not including travel)

CEU's: None

Level: Introductory - Advanced

**Course description:** Visit with an industry expert to learn about the field, ask questions, and make connections.

Potential modules include:

- Tour of a Green Home
- Tour of a Zero Energy Mechanical Room
- HVAC Systems Up Close
- Retrofit B.S. (building science)
- Solar Installation Underway
- Follow Along on a Solar Site Assessment
- Conversations with a Designer
- The Role of the General Contractor
- Green Construction Site Visits
- Energy Audits and Building Diagnostics



## FIELD STUDIES

Hours: 2-4 (not including travel)

CEU's: Pending

Level: Introductory - Advanced

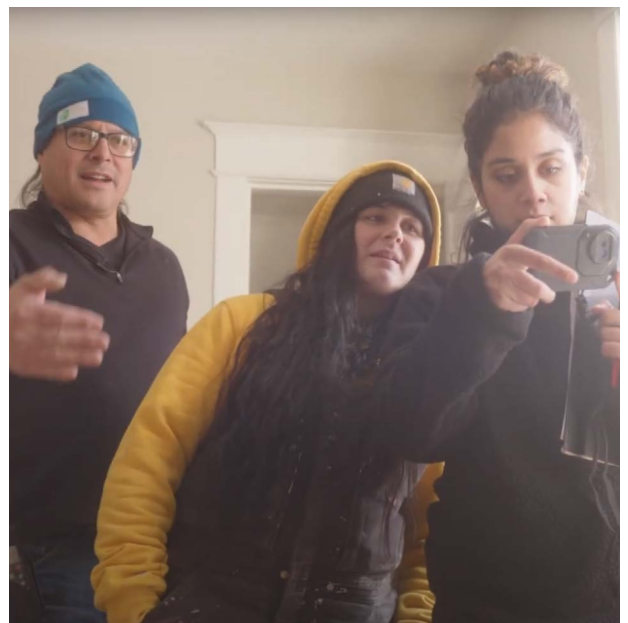
Prerequisites: Vary

**Course description:** Study green building elements, concepts, and equipment in-depth and on-site with different instructors embedded in the building industries.

Potential field studies include:

- Passive Solar Design
- Introduction Solar Photovoltaics (PV)
- Building Science Scavenger Hunt
- Controlling HAM: Theory to Practice
- Testing Air Tightness
- Blueprints for Green Homes
- Integrated Design in the Field
- Mechanical Systems Integration
- Building Performance Assessment

*Available selections vary based upon time of year, access to field sites, and instructors' schedules.*





## **JUST HOUSING**

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*Just Housing is a public benefit corporation. We shape our work toward purpose, not profit. We offer products and services to support the advancement and widespread implementation of green construction practices.*