

Guy Payne 7/2/17



SUSTAINABLE ENERGY OUTREACH NETWORK

High Performance
BUILDER CERTIFICATION

*Learn How
to Build
the Next
Generation
of Homes*



CERTIFIED LEVEL 1

High Performance Builder Program

For experienced and entry level carpenters

We're asking more of our buildings,
so we need to ask more of our builders.

Are you prepared?

For certification and course details, visit

[www. SEON.info/HPB](http://www.SEON.info/HPB)

SEON's Certified Level 1 HIGH PERFORMANCE BUILDER



INTRODUCTION

After reviewing data on educational achievement gaps, employment, and economic development, the Vermont State College System and Vermont Student Assistance Corporation led a statewide effort with diverse stakeholders to identify a new goal for post-secondary educational attainment.

GOAL: Increase the economic and civic vitality of Vermont through education attainment.

“By 2025 70% of working age Vermonters will possess a post-secondary degree or credential of value.” While not a state mandate, this goal of key Vermont educational and economic development agencies recognizes a serious trend in the development of our workforce: Baby Boomers are retiring, jobs (even at the trade levels) require higher levels of learning than can be acquired in high schools or career centers, and far too many of our youth are leaving the educational system without occupational proficiency.

The new 70% goal reflects a sense of urgency in addressing immediate workforce and economic development needs for Vermonters. The current job market reflects the demand that occupational proficiency requires some form of post-secondary learning whether it be a degree or credential that represents both knowledge and performance competency. Dropping out of the educational system without occupational proficiency, leaves one handicapped in attaining the earning capacity for a fulfilling adult life. Not everyone is Bill Gates.

Independent of this report, SEON recognized there were few opportunities for those in the building trades or those looking to enter the trades to earn a credential attesting to the attainment of construction knowledge and performance – especially those unique capabilities necessary to solve problems in the built environment that have a direct impact on climate change. The public is expecting more from our builders and the standards for energy efficient homes keep increasing. A credential allows practitioners to represent their knowledge and performance competencies to customers, and is evidence of proficiency for future employment.

Consequently, SEON, in partnership with numerous stakeholders, took it upon itself to design a **Certified High Performance Builder** program for current and entry level carpenters. Phase I will be the development of a program for a Certified Level 1 carpenter. This will be followed by certifications of increasing performance levels including Master, High Performance Builder.

Certified Level 1 High Performance Builder

This certification builds on the carpentry skills and credentialing curriculum of the *National Center for Construction Education and Research (NCCER) Core Curriculum* to create a new designation: **Certified Level 1 High Performance Builder**.

Knowledge of basic carpentry skills through NCCER is an essential foundation for the required learning as a high performance builder. Understanding carpentry terms and skills, building components, and even proper handling of equipment, is necessary to anchor learning of air and water barriers and promote overall safety. This approach also relieves production oriented builders from diverting resources to educate entry level employees on carpentry basics.

Requirements for Certified Level 1 High Performance Builder

1. Satisfactory completion of the **NCCER Core Curriculum** or **test out** based on knowledge and performance assessment
2. Satisfactory completion of 2 courses: **“Basics of High Performance Building”** and **“Water, Air, and Thermal Continuous Control Layers”**
3. Demonstration of Carpentry Level 1 competencies of basic carpentry and high performance skills (site-based learning and assessment)



1. NCCER: Core Curriculum: An Introduction to Craft Skills*

72 hours of classroom and lab; Cost \$1,345 (instruction and book); Financial assistance may be available, see page 4

Covers Basic Safety, Construction Math, Hand and Power Tool, Construction Drawings, Job Site Communication, and Material Handling.

2. Coursework

HPB 101: Basics of High Performance Buildings*

2 half days; Cost for this 2-part program \$475 plus books; Pre-requisite: 1 year of carpentry experience or completion of the NCCER Core Curriculum

**Part I: Think Like Air, Think Like Water:
Building Science Principles Related to the
Enclosure**



This unit gives participants an introduction to specific strategies used to achieve durable and energy efficient enclosures. Participants will take away 1) skills to describe the air tightness strategy used in a specific high-performance system and 2) the ability to discuss strategies for proper moisture management given real world examples.

Part II: The Big Picture: Integration of the Whole Building System

This unit gives participants an overview of the building as a whole system. Participants will take away 1) skills to identify components of high-performance homes and 2) the knowledge necessary to compare and contrast high-performance homes with code minimum conventional construction.

HPB 102: Water, Air, & Thermal Continuous Control Layers*

Two 4 ½ hour sessions; Cost \$475, possibly shared by employer; Prerequisite: 1 year of carpentry experience

This is a hands-on course that will cover the theory of control layer materials and installation practices on vertical walls. It will also cover the installation of windows and doors, such that each of the control layers is continuous at these difficult penetrations.

This course is designed for: Carpenters (with at least 1 year experience), Lead Carpenters, Superintendents, Contractors, Project Managers, and Architects. Currently not taught as part of the Career Center Curriculum.

On the completion of the **NCCER Core Curriculum** and **Basics of High Performance Building**, SEON will assist with finding employment for all entry level participants. SEON's recommended employer list will be strongly influenced by builders who have the demonstrated capacity to reinforce the building science and high performance learning of program participants.

3. Carpentry Level I Competencies*

The performance objective will be to achieve a rating scale of 3 in all categories of the Carpentry Skills. Once employed, the Carpentry Skills will be primarily learned & assessed on the job site.

**For full course descriptions, visit SEON's website (www.seon.info/HPB)*

These courses may be taken independent of the Certified Level 1 High Performance Builder program.

Curriculum Advisory Council

- **Andrew Dey**, Chief Operating Officer, Unity Homes, Walpole, NH
- **Chad Mathrani**, Principal, Vermont Natural Homes, Brattleboro, VT
- **Jennifer Severidt**, Residential Energy Consultant, Efficiency Vermont, Burlington, VT
- **Dr. Peter Temple**, Founder and Associate Professor, Architecture and Building Science Program, Keene State College
- **Peter Yost**, Principal, Building-Wright., Brattleboro, VT

Financial Assistance



Vermont Student Assistance Program (VSAC)

Natalie Brennan, Adult Outreach Coordinator Windham and Windsor Counties

Brennan@vsac.org

FAQs

Will employers recognize my learning with a wage of \$15.00/hr?

While SEON cannot control the wage scale of builders, we have encouraged them to pay the rate of \$15/hr. for entry level carpenters.

Who will assess my carpentry skills and how can I be assured of their proficiency?

Experienced carpenters and the Building trades Instructor at the Windham Regional Career Center will be the principal assessors of your carpentry skills

Will this Level 1 certification have any value outside of the SE Vermont Region?

Yes. While SEON is not a national organization, you will have documentation of your learning and performance that you can provide any employer. The reputation of our Curriculum Advisory Council, and recognition by VT State Agencies will be additional evidence of the certification's value. The NCCER Core Curriculum (a key feature of the High Performance Builder Program) is recognized nationwide. Their registry is accessible anytime

How influential is SEON outside of SE Vermont Region?

The work of SEON is recognized throughout Vermont, Efficiency Vermont is a strong partner, and we have a good relationship with Western Mass Green Consortium, Greenfield Community College and Keene State College.

What are the plans for higher levels of credentialing?

SEON plans to have a Certified Level 2 and Level 3 (Master) completed within 3 years.

Does this training have a particular focus within the construction industry?

The primary orientation of this program is for residential and light commercial buildings.

How applicable will this knowledge and skill be for regions outside of the north country?

Issues of energy efficiency, water and vapor management, air leakage, insulation, indoor air quality, and health apply throughout the country

Will this credential have value for commercial construction?

The principles of high performance buildings and building science apply universally.

I'm not a SEON member, why am I being asked to sign the Guiding Principles document?

While you would not be a member of SEON by signing the form, this statement of Guiding Principles gives testimony to the kind of organization we aspire to be. Your signature serves as an acknowledgement of the kind of carpenter/builder you also aspire to be.

Can I still take these courses if I don't want to pursue certification?

Yes, any of the course can be taken independently as long as you meet the prerequisites.

What are SEON Builders looking for?

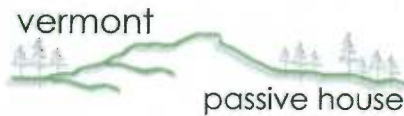
There is probably no one specific answer what Builders are looking for, it is a combination of factors. Read down this list and see if they connect with you. They are in no order of priority

- Demonstrates willingness to accept responsibility for his/her actions
- Asks questions and interested in ongoing professional development
- Works well with colleagues by listening and conveying respect
- Demonstrates customer service skills by attending to customer concerns and their need for responsiveness
- Expresses an interest in seeing this industry as contributing to broader sense of purpose
- Demonstrates grit - willing to work hard till projects are completed
- Demonstrates a commitment to high industry standards

Endorsed By



**Home Builders and
Remodelers Association**
OF NORTHERN VERMONT, INC.



SEON is a 501(c)(3) nonprofit corporation dedicated to advancing renewable energy and energy efficiency in the tri-state region of SE Vermont.



Notice the air layer being created between the sheathings



Vapor Permeable Exterior Rigid Installation



Students learn the skill of reading blueprints



Using a blower door to determine amount of air leakage



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Sustainable Energy Outreach Network (SEON)
532 Putney Rd., Suite 204 • Brattleboro, VT 05301

admin@seon.info • www.seon.info • facebook.com/seonvt