

Solar Hot Water Design and Installation SEI - Online Course

KVCC has partnered with [Solar Energy International](#) (SEI) to bring Solar Thermal Training to the Northeast region and beyond. SEI is one of the longest running and most respected renewable energy training providers in the industry with over 35,000 alumni world-wide. This Solar Hot Water Design and Installation course was developed and is taught by two “Live” SEI instructors who are the most respected leaders in the solar heating industry: [Chuck Marken](#) and [Vaughan Woodruff](#). This online course is great opportunity for students to become familiar with Solar Thermal technology. This course is designed to support the development of advanced knowledge and skills for individuals involved with solar heating technologies and will prepare students for employment as solar energy specialists who are involved with the evaluation, planning, design, installation, and/or maintenance of solar heating systems.

Audience

This course is geared toward individuals who have limited experience with solar heating systems and are interested in expanding their understanding of solar heating technology. Upon completion of this course, students will be eligible to take the NABCEP Solar Heating Entry Level Exam (SH1 015 or SH1 016). This exam is optional; therefore students must register to take this exam separately.

Courses

Duration

SH01101

Solar Hot Water Design and Installation -Online

6 Weeks

Course Description

SH01101 Solar Hot Water Design and Installation

Students in this course will learn the theory, design considerations and installation strategies necessary to install and maintain a solar domestic hot water system. In addition, students will learn about passive solar water heaters, drain-back systems, antifreeze systems, and photovoltaic powered systems as well as an introduction to pool and space heating systems.

The course will familiarize students with industry history, the distribution chain, jobs in the industry, safe practices, and national codes and standards. Students will explore the different types of collectors, systems, components, and materials used in solar heating systems and determine their appropriate applications.

The course will also examine the techniques and tools used for installing solar heating equipment. Finally, students will learn how to conduct site assessments, analyze hot water loads, develop accurate system sizing and project cost estimates, and identify the economic and non-economic benefits of a solar heating system.

Other Online Course Information:

This is an online course delivered by SEI “live” Instructors, who are available during normal office hours to give feedback. Please see the course syllabus / overview for further details about instructor support. The topics covered in this course are the same topics covered in face-to-face workshops of the similar name, but do not include a hands-on component. Students will be able to access this online course any time, 24 hours a day, 7 days a week for the full duration of the course. It is estimated that you will need between 10-20 hours per week to complete the lesson materials and graded activities. You will be able to access this course from any computer with an internet connection (see computer requirements below). This course is self-paced but must be completed by the end date of the course.



This course includes interactive activities, power points, readings and quizzes, and exercises and homework to test students' comprehension. A discussion forum is also available so students can post questions and/or network with each other. This online course takes six (6) weeks to complete and will end on the Sunday night of the last week. All graded course activities (e.g., quizzes, forum discussion assignments, any other assignments with a score) need to be completed within this 6 week period, with a passing grade of 70% or better in order to receive a Certificate of Completion. After the course end-date, you will have two additional weeks for instructorless review-only time. During this time you will not be able to complete any graded activities. However, this is an ideal time to finish saving and reviewing any course materials of particular interest.

Course Materials/Computer Requirements

Course Materials:

- Uniform Solar Energy Code, will be shipped to each student by SEI and is included in the tuition cost.
- NABCEP Solar Heating Resource Guide (free download or \$34.95 in print through NABCEP.org)
- Other publications such as the OSEIA Solar Construction Safety Manual will be referenced.

Computer Requirements:

- PC (Windows XP, Vista, 7, 8)
- Mac (Intel-based only, OSX 10.5 or later)
- Hardware / Internet Requirements
- Minimum screen / monitor resolution is 1280 x 600
- 256 MB of RAM, 2 GB of free disk space
- Computer microphone or regular telephone for Webinar or Live Office Hours participation
- Built in sound or sound card
- High-speed Internet connection (at least 5 Mb download speed — [click here to check your speed](#))
- Latest version of Mozilla Firefox, Microsoft Internet Explorer, Google Chrome, or Apple Safari
- Latest version of Microsoft Silverlight
- Enabled cookies, javascript, Java, pop-ups

Special Considerations:

- 1) Satellite, cellular 3G/4G cards, mesh wide area networks, and other similar "non-copper" or non-WI-FI connections, while appearing to be high speed, will likely experience performance issues in this course. We do not recommend this type of Internet connection.
- 2) There are subtle differences among all browsers based on whether using a Windows or Mac computer.
- 3) The version of your computer's operating system and your browser version can also have an effect on operation.
- 4) Video buffering problems have been reported in some cases on slow connections.
- 5) The video/audio Playback Rate speed control dropdown menu is not available/functional using the Chrome browser.
- Video and Audio Presentations
- The lecture capture presentations are streaming video (just like Netflix® or Hulu® or Amazon®). To adequately view these lecture presentations, a high speed network connection is preferred. We suggest at least 5 Mb/sec. If your connection speed is slow, is unreliable, or if the connection is shared with other active computers or mobile devices (phones or tablets), you may experience less than optimal playback. If this happens, there are a three options: obtain a faster network connection, turn



off all active devices other than the device used to view the presentations, download the presentations from Apple iTunes and view from a mobile device or the iTunes app on your computer.

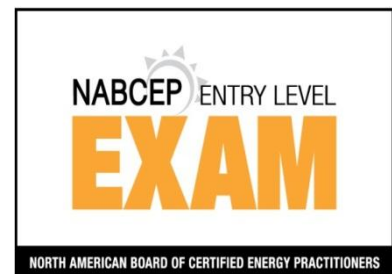
- Smart Phone and Tablet Platforms: Apple iOS Devices (iPod touch, iPhone, iPad) and Android Phones & Tablets.
- With smart phones/tablets, you can pretty much do anything that can be done on a Mac or PC.
- Take quizzes
- Read your textbook e-book version
- Download PDFs
- Participate in online forum discussions
- Check your grade book
- Complete questionnaires and surveys
- View video and audio presentations
- Some performance or access may vary
- Required Software
- Microsoft Silverlight (video/audio//PowerPoint presentations)
- Adobe Flash (latest version for presentations & interactive exercises in some courses)
- Oracle Java plugin (latest version)
- Adobe Acrobat Reader (viewing & printing PDF files)
- Optional Software
- Microsoft Office Viewers (viewing & printing Word, PowerPoint, Excel, Visio files)
- Open Source Office Suite (viewing & printing Word, PowerPoint, Excel files)
- Apple QuickTime (viewing QuickTime video in some courses)
- Apple iTunes (podcast subscription)

Prerequisites: None

SH1 015 NABCEP Solar Heating Entry Level Exam (PP)

The NABCEP Solar Heating Entry Level Exam will be administered by KVCC, a recognized NABCEP Entry Level exam provider. This two hour paper and pencil (PP) exam is an optional conclusion to SHOL101. Students have two years from the conclusion of SHOL101 to register for the exam.

Prerequisites: Successful Completion of SHOL101



SH1 016 NABCEP Solar Heating Entry Level Exam (CBT)

The NABCEP Solar Heating Entry Level Exam is also available in a computer based testing (CBT) format with Castle Worldwide, a recognized NABCEP Entry Level exam provider. This exam is an optional conclusion to SHOL101 and registration is done through KVCC. Students have two years from the conclusion of SHOL101 to register for the exam and six months from the date of their registration to sit for the exam

Prerequisites: Successful Completion of SHOL101

