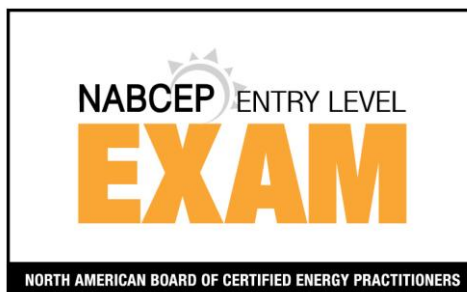


# NABCEP™

Raising Standards. Promoting Confidence.

## **NABCEP Entry Level Program Provider Info Packet**



## North American Board of Certified Energy Practitioners

### PHOTOVOLTAIC (PV) and SOLAR HEATING (SH) and SMALL WIND (SW) ENTRY LEVEL PROGRAMS

#### OVERVIEW, PROCESS & POLICIES FOR NABCEP ENTRY LEVEL EXAM PROVIDERS

#### About NABCEP

The North American Board of Certified Energy Practitioners (NABCEP) is the most respected, well-established, and widely recognized national certification organization for professionals in the field of renewable energy. NABCEP is a volunteer board of representatives who are chosen based on their experience and involvement in the renewable energy industry. NABCEP's mission is to develop and implement quality credentialing and certification programs for practitioners by supporting and working closely with professionals and stakeholders in the renewable energy and energy efficiency industries.

#### Description of the Photovoltaic (PV) and Solar Heating (SH) and Small Wind (SW) Entry Level Program

The North American Board of Certified Energy Practitioners (NABCEP) coordinates an Entry Level Program that provides a basis for testing an individual's knowledge of the fundamentals of various renewable energy technologies. Each technology in the program (Photovoltaics, Solar Heating, Small Wind) has a set of Entry Level Learning Objectives from which a NABCEP Entry Level Exam is developed.

The knowledge demonstrated by passing a NABCEP Entry Level Exam does not replace the knowledge, skills or abilities of the electrical or other construction trades, or those of other professions or degree programs that require considerably more academic and/or practical experience. This achievement demonstrates that the individual has passed an industry-designed, NABCEP-issued Exam. An Individual who passes the Exam is provided with a Passing Score Achievement -- in no way does passing the Exam indicate that an individual is "Certified" by NABCEP. NABCEP does administer several personnel certification programs including: Photovoltaic Installation Professional, Photovoltaic Technical Sales Professional, and Solar Thermal Installer. For more information about NABCEP Certifications please visit [www.nabcep.org](http://www.nabcep.org).

The NABCEP Entry Level Exam is written by industry subject matter experts under the guidance of professional psychometricians (testing specialists). The NABCEP Entry Level Learning Objectives, which are also developed by industry subject matter experts, provides the blueprint for the Exam and is the primary document to reference with regards to what topics may or may not be covered on the Exam. All Candidates should be provided with a copy of these Learning Objectives (found on the NABCEP website under "Entry Level" and "Learning Objectives") at the beginning of each course that provides eligibility for the Exam.

The Entry Level Program relies on a network of Registered NABCEP Entry Level Exam Providers to offer courses that prepare individuals to sit for the Entry Level Exam. During the registration process, Exam Providers agree that they will cover all of the Entry Level Learning Objectives in their course. Completing coursework that covers the NABCEP Entry Level Learning Objectives with a Registered Exam Provider is the only requirement to sit for the Entry Level Exam; furthermore, this is the only method by which one can become an eligible Candidate for the NABCEP Entry Level Exam. Candidates are eligible to sit for

the Entry Level Exam for a period of two years after completing a course that covers the NABCEP Entry Level Learning Objectives with a Registered Entry Level Exam Provider, and may take the Exam up to four times within that two year period.

The Photovoltaic, Solar Heating and Small Wind Entry Level Exams are given in two capacities to Candidates who complete coursework with a NABCEP Registered Entry Level Exam Provider: 1) on-site by pencil and paper, or 2) off-site through an independent Computer-Based Testing (CBT) center. Institutions who want to become NABCEP Registered Entry Level Exam Providers must apply directly to NABCEP, using the online NABCEP Entry Level Provider application. Before applying, the Entry Level Provider application and this Entry Level Provider Info Packet should be carefully reviewed. If questions remain, please contact NABCEP directly. As part of the online application, the designated Exam Administrator is required to read the Exam Administration Manual (linked within the online Application), which details all policies and instructions for administering the Entry Level Exam. Registered Providers agree to follow all policies and procedures for every Exam administration.

## Eligible Institutions

NABCEP relies on independent, third party accreditation to determine an institution's eligibility to provide education and administer Examinations. A condition of registration is that the institution must be accredited, certified, or approved by one of the following:

- 1) Accredited by an agency recognized by the U. S. Department of Education<sup>1</sup>
- 2) Approved Apprenticeship Program by the U.S. Department of Labor<sup>2</sup>
- 3) Interstate Renewable Energy Council (IREC) Accredited Training Program or Continuing Education Provider for the course(s) or program being registered
- 4) IREC Certified Master Trainer for the course(s) being registered<sup>3</sup>
- 5) Accredited Training Sponsored by the National Center for Construction Education and Research for "Introduction to Solar Photovoltaics"

## Application Process

NABCEP accepts online Entry Level Provider applications year round and reviews applications in the order they are received. NABCEP will notify the applicant via e-mail when an application has been received.

Complete applications, found to meet all criteria set forth by NABCEP, will be approved for registration. The designated Exam Administrator, who will function as NABCEP's main contact for Entry Level related communications, will be notified of acceptance via e-mail. Please be advised that an institution may in no way advertise a course or training program as offering a NABCEP Entry Level Exam or qualifying students to take the NABCEP Entry Level Exam before formal notice of registration has been given. Additionally, Candidates will not be retroactively eligible to sit for the Entry Level Exam.

It is the responsibility of the applicant to verify that all applications being submitted are up-to-date. Incomplete applications will only be formally reviewed and accepted once they are complete. If incomplete, notification of the missing documents will be sent via email.

## Exam Administration

---

<sup>1</sup> If Canadian, than equivalent governing body

<sup>2</sup> If Canadian, than equivalent governing body

<sup>3</sup> IREC Certified Master Trainers are only eligible for off-site, computer-based testing

**Paper and Pencil Exams:** To administer the Entry Level Exam by Paper and Pencil, the Exam Provider will complete and return a signed Exam Administration Agreement Form for each **non-instruction** staff member that is involved in the NABCEP Entry Level Examination. Only one staff member may be designated as the Exam Administrator who will access the Examination and administration forms via secure website, though a Provider may have more than one designated Exam Proctor. Examinations are printed, administered and proctored by Provider personnel at a time and location determined the Provider.

**Computer Based Testing (CBT):** All registered Providers may authorize Candidates to take the NABCEP Entry Level Exam at an off-site, independent Computer Based Testing center designated by NABCEP. These CBT centers are located throughout the United States and Canada. Candidates will choose the location, date, and time for their Exam. *Please note: It is extremely important that Candidate names submitted for CBT authorization match the legal picture identification of Candidates exactly. Candidates whose names are not an exact match will not be allowed to sit for the Exam.*

## Fees

**Annual Fee:** A \$300 annual fee is required to participate in the Entry Level Program. The initial \$300 annual fee must be submitted with the application. Cash/Check payments from applications that are not completed within 3 months, or that are not approved, will be voided and returned to sender.

**Paper and Pencil Exam:** The Entry Level Exam fee is \$95 per paper & pencil Exam. NABCEP will invoice the registered Provider upon upload of Candidate eligibility information for each Exam administered. NABCEP does not accept individual payments from students for Exam fees. At their discretion, Providers may add an administration fee to the Exam fee to cover the cost of the Exam printing and administration expenses. This additional administrative fee may be retained by the Provider and shall not exceed \$55.00 per paper & pencil Exam administered.

**Computer Based Testing (CBT):** The fee for computer based Exams is \$95 per Exam. Providers are responsible for collecting fees and will be invoiced upon upload of Candidate eligibility information. NABCEP does not accept individual payments from students for Exam fees. At their discretion, Providers may add an administration fee to the Exam fee to cover the cost of administration expenses. This additional administrative fee may be retained by the Provider and shall not exceed \$25.00 per CBT Candidate authorized.

## Payment Policy

All payments to NABCEP are due within 30 days of the invoice. Any Provider with 60 day overdue accounts may be subject to suspension. It is NABCEP policy to provide warning letters and statements to Providers whose accounts are 60 days past due. It is the Provider's responsibility to ensure that their accounts are kept current. If special circumstances apply, the Provider should contact the program manager to negotiate acceptable terms. NABCEP reserves the right to suspend and withhold score reports from Providers whose accounts are more than 60 days overdue.

Please note: Additional administrative fees may be charged for processing Provider errors in Exam administration.

## Instructors

NABCEP has found that courses taught by instructors who have renewable energy related training and experience have higher passing rates than those who do not. As such, NABCEP requires courses taught by registered Providers that confer eligibility for the EL Exam must be taught by a registered instructor.

Each instructor must submit a resume, CV or summary of relevant experience with supporting documentation with the application. Documentation must show proof of completion of an advanced training program that is one of the following:

- IREC Accredited Training Provider program
- IREC Continuing Education Provider program
- IREC Certified Master Trainer program
- IREC Certified Instructor program
- A train-the-trainer program offered by the National Joint Apprenticeship and Training Committee (NJATC)
- One of the nine Regional Resource and Training Providers of the [Department of Energy's Solar Instructor Training Network](#)
- An alternative train-the-trainer program (subject to NABCEP review and approval.)
- A passing score on the NABCEP Installer Certification Exam

Field work and hands-on experience will also be taken into consideration. All installation experience submitted should include documentation.

NABCEP must be notified and provided with all necessary documentation if there is a change in instructors.

## Program or Course(s) Requirements

Registered NABCEP Entry Level Exam Providers must have programs that include course(s) which have an interactive teacher-learner structure requiring a connection between a learner and a learning source. This format can include classroom time led by an instructor and/or discussion leader. It can also include activities in which a learner is engaged in a planned learning event in which he/she is separated from faculty and other students but where the learner receives feedback and progress is monitored. Examples include computer-assisted instruction, interactive video/CD/DVD and/or web site learning.

NABCEP does not review or approve curriculum, but instead requires registered Instructors to agree to cover the NABCEP Entry Level Learning Objectives. Therefore, Providers cannot claim that the course is a "NABCEP Course" or that it is "approved" by NABCEP. As noted above, the NABCEP Entry Level Learning Objectives provides the blueprint for the Exam. It is the primary resource to reference with regards to which topics may or may not be covered on the Exam. Please see the comprehensive list of Entry Level Learning Objectives posted on our website, [www.NABCEP.org](http://www.NABCEP.org). Courses may include subjects beyond the scope of the Learning Objectives but all Providers must agree to cover the subjects outlined by NABCEP before administering the Entry Level Exam.

Prerequisite or bridge training and/or experience in electrical/plumbing systems, mathematics, and other subjects may be required for some students to fully comprehend and satisfactorily demonstrate knowledge of all of the Learning Objectives. **Also, for intensive short courses (e.g., 40-hour, one-week workshops) students should be encouraged to spend approximately 2-3 additional hours outside of class (for each hour in class) to review the subject matter, solve problems, and study reference materials prior to taking the Entry Level Exam. This may require the student to take the Exam at a later date rather than immediately following the course.**

## **NABCEP Photovoltaic Entry Level Learning Objectives**

The PV Entry Level Exam program is based on a set of Learning Objectives developed by a committee of PV subject matter experts. The Photovoltaic Entry Level Learning Objectives include ten (10) knowledge content domains:

- PV Markets and Applications
- Safety Basics
- Electricity Basics
- Solar Energy Fundamentals
- PV Module Fundamentals
- System Components
- PV System Sizing Principles
- PV System Electrical Design
- PV System Mechanical Design
- Performance Analysis, Maintenance and Troubleshooting

## **NABCEP Solar Heating Entry Level Learning Objectives**

Similar to the PV program, the NABCEP Solar Heating (SH) Entry Level Exam is based on a set of Learning Objectives. These were developed by a committee of Solar Heating subject matter experts. The Solar Heating Learning Objectives has six (6) knowledge content domains:

- Conducting a site analysis, including load analysis
- Identifying SH safety practices, standards, codes and certification
- Identifying systems for specific climates and applications
- Identifying proper orientation and installation methods
- Identifying proper use of balance of system components and materials
- Identifying common SH maintenance items

## **NABCEP Small Wind Entry Level Learning Objectives**

The Small Wind Entry Level Learning Objectives include ten (10) knowledge content domains:

- Fundamentals of Electricity
- Applications and End Uses
- Fundamentals of Small Wind Turbines (including system components and science and theory)
- Towers, Foundations, and Installation Considerations
- Resource Assessment
- Site Assessment
- System Sizing Principles and Economics
- Operation, Maintenance, and Troubleshooting
- Safety and Best Practices
- Impacts and Challenges of Small Wind

The learning objectives identified in these analyses do not replace electrical, plumbing or HVAC trades, technician, technologist or engineering training. *See the Learning Objectives document posted on the NABCEP website for the full description of these knowledge content areas.*

NABCEP will periodically review the Learning Objectives and make any changes according to changes in codes, standards, technology and best practices in the industry. NABCEP will notify the Provider of any modifications to the Learning Objectives.

## The Exam

Exam Providers will be required to sign a NABCEP Entry Level Exam Provider Agreement Form, agreeing to comply with NABCEP Examination administration policies (as outlined in the Exam Administration Manual), including those related to maintaining the security of the Examination, confidentiality of the test items and other related issues. The NABCEP Entry Level Exam is developed according to accepted psychometric standards of measurement; the items are written and reviewed by subject matter experts. The NABCEP Entry Level Exam is a confidential and secure measurement of knowledge that is not meant to be read, studied, discussed or taught by Exam Administrators, Exam Proctors or Instructors.

After Exam administration, answer sheets and all other Exam materials must be returned to NABCEP's testing contractor for scoring via traceable carrier at the expense of the Provider.

Upon grading of the answer sheets, NABCEP will send Candidate scores directly to each Candidate to the mailing address submitted to the Provider on the Candidate Eligibility Form. Successful Candidates will receive a suitable-for-framing letter stating that they have achieved a passing score on the Entry Level Exam. Registered Exam Administrators will have access to scores, via secure online Administrator site, for each Candidate who does not specifically opt-out of releasing their score to their Provider.

## Exam Administration Location

NABCEP offers the Entry Level Exam in both paper & pencil and computer-based formats. **Pencil & paper Exams may only be administered from the location covered by the Certificate of Liability insurance provided in the application.**

Providers who offer training only in an online format are required to authorize Candidates to take the Entry Level Exam through NABCEP's contracted Computer Based Testing centers. Providers that are accredited as IREC Certified Master Trainers are also required to authorize Candidates to take the Exam via NABCEP's contracted CBT centers.

## Appropriate Certificate of Insurance

All registered NABCEP Entry Level Exam Providers administering the paper and pencil Exam must submit a copy of the appropriate Certificate of Insurance(s) showing that professional liability and general liability policies are maintained with respect to the administration of Examinations.

## Special Accommodations

All Providers must provide special testing accommodations and comply with the provisions of the Americans with Disabilities Act and with Title VII of the Civil Rights Act and other applicable laws. If a student requires special testing accommodations the required forms must be submitted to NABCEP for review and approval prior to granting any special testing accommodations.

## Exam Format

Each examination consists of seventy (70) multiple-choice questions, with four (4) choices per question. Sixty (60) of the questions are scored and ten (10) of the questions are un-scored pilot questions. The pilot questions are randomly distributed throughout the examination and are not identified.

## Cost

\$95 (U.S.) for Paper & Pencil Exams

\$95 (U.S.) for Computer Based Exams (CBT)

(Note: Providers are able to charge additional administrative fees of up to \$55 per Candidate for Paper & Pencil Exams and up to \$25 per Candidate for CBT.)

## Duration

Candidates must complete the Exam within two (2) hours of when it begins. (Note: 30-60 minutes of time is typically required for pre-Exam administrative activities once all Candidates have arrived; therefore, the room should be reserved for a minimum of three hours.)

## Passing Score

The passing score is determined after psychometric analytics are performed for each examination. Scoring occurs using a scaled process to ensure fairness from one examination to the next.

## Score Reports

A Pass or Fail Score Report will be mailed directly to each Candidate after their answer sheet has been submitted and scored. Exam Administrators will have access to Candidate score records via their online account.

## Retaking

A Candidate may retake the Exam up to three times within a two-year period of completing the course, for a total of four attempts, before they must take another course to become eligible again.

## Passing Score Achievement

**A PASSING SCORE ON THE NABCEP ENTRY LEVEL EXAM DOES NOT CONFER THE TITLE OF A NABCEP CERTIFIED™ OR ANY OTHER TITLE OR CREDENTIAL FROM NABCEP.** Successful Candidates may state that they have passed the Entry Level Exam issued by the North American Board of Certified Energy Practitioners (NABCEP). The passing score achievement document may only be displayed in association with the individual achieving the passing score, as the achievement is personal and may not be transferred, assigned to, displayed or used by any other individual, organization, business, or entity. Replacement documents are available from NABCEP for a fee of \$25.00.

The knowledge demonstrated by passing this test does not replace the knowledge, skills or abilities of the electrical or other construction trades, or those of other professions or degree programs that require considerably more academic and/or practical experience. This achievement demonstrates that the student has passed an industry-designed, NABCEP-issued Exam. A passing score by itself does not qualify an individual to install Photovoltaic (PV), Solar Heating (SH), or Small Wind (SW) systems. In no way does passing this Exam indicate that an individual is certified by NABCEP.

If you have any questions about NABCEP, please contact

North American Board of Certified Energy Practitioners

56 Clifton Country Road, Suite 202

Clifton Park, NY, 12065

Phone: (800) 654-0021 Fax: (518) 899-1092

E-mail: [CWolf@nabcep.org](mailto:CWolf@nabcep.org)