Congratulations on pursuing certification. Certification is a great way to demonstrate competency, show commitment to the profession, and help with job advancement.

This handbook contains information about California Water Environment Association’s Technical Certification Program for certification candidates. Please read this entire handbook to become familiar with CWEA’s certification policies and procedures. Certification candidates are responsible for knowing the contents of this handbook. Please contact the CWEA office at (510) 382-7800 if any questions arise.

All policies are subject to change. The most recent edition of this handbook can be downloaded for free on the CWEA Online Bookstore. Candidates should ensure that they have the most current version as indicated by the date in the title above and at the bottom of each page.
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Introduction to the Technical Certification Program

CWEA’s Technical Certification Program (TCP) develops and administers competency-based certification exams for wastewater professionals in a number of different vocations.

The certification program was founded in 1937. The first certification offered was the Wastewater Treatment Plant Operator certification, which was later adopted by the State Water Board.

The exams are developed and revised by CWEA member Subject Matter Experts under the guidance of exam development professionals. Exams are offered throughout the year and are experience based, ranging from entry level to upper management.

CWEA currently certifies over 6,000 individuals. Certification is a great way to demonstrate competency, show commitment to the water profession, and help with job advancement.

Technical Certification Program Executive Committee
The Technical Certification Program Executive Committee is the governing body of CWEA’s certification program. It was created to develop and implement a multilevel technical certification program for individuals employed in the wastewater field. They are responsible for the development and administration of the Technical Certification Program, including the application, examination development, examination administration, and certification renewal process. They develop the guidelines, criteria, and testing procedures that are responsive to the needs of the water quality industry and allow participants to demonstrate technical competence. They are also responsible for maintaining the quality of the examinations through continuous upgrading and review.

For current Committee members, contact the CWEA office.

Overview of the Certification Process
To become certified all applicants must complete the following requirements:

1. Submit an application
2. Pay the application fee
3. Meet the minimum qualifications regarding professional experience
4. Pass the exam
Once an applicant successfully completes the requirements, they will be mailed their certificate. In order to maintain the certification once earned, certified individuals must continue to meet the following recertification requirements:

1. Submit 12 contact hours of continuing education every two years
2. Pay the annual renewal fee

Certifications Offered by CWEA

Collections Systems Maintenance, Grades 1-4
Mechanical Technologist, Grades 1-4
Electrical/Instrumentation, Grades 1-4
Laboratory Analyst, Grades 1-4
Environmental Compliance Inspector, Grades 1-4

Please note that the Wastewater Treatment Plant Operator Certification and Drinking Water Treatment Plant Operator Certification are administered by the State of California. To work on a drinking water treatment system, distribution system or in a wastewater treatment plant, an individual must have a valid operator certificate or an operator-in-training certificate from the State Water Board. For information about these programs, please contact the State Water Board Office of Operator Certification.

Application Process

Submitting an Application

Candidates must submit an application and be approved before they can schedule an exam. Applications can be faxed, emailed or mailed to the CWEA office at any time throughout the year. Applications are reviewed by CWEA TCP Staff and/or Subject Matter Experts. Once the application is processed, candidates are notified of their approval status via email. Please follow all instructions on the application carefully. Incomplete applications may delay approval. The application is available on the CWEA website.
Application Deadlines and Exam Windows

The year is divided into four exam windows, each with an application deadline. Applications are valid for one year from the first date of the applicant’s original exam window. Applicants may transfer exam windows throughout the year, for details see Transferring Exam Windows (p. 12).

<table>
<thead>
<tr>
<th>Exam Windows</th>
<th>Application Deadlines</th>
<th>Exam Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>February 28\textsuperscript{th}</td>
<td>April 1\textsuperscript{st} - June 30\textsuperscript{th}</td>
</tr>
<tr>
<td>Summer</td>
<td>May 31\textsuperscript{st}</td>
<td>July 1\textsuperscript{st} - September 30\textsuperscript{th}</td>
</tr>
<tr>
<td>Fall</td>
<td>August 31\textsuperscript{st}</td>
<td>October 1\textsuperscript{st} - December 31\textsuperscript{st}</td>
</tr>
<tr>
<td>Winter</td>
<td>November 30\textsuperscript{th}</td>
<td>January 1\textsuperscript{st} - March 31\textsuperscript{st}</td>
</tr>
</tbody>
</table>

CWEA Application Fees

Current fees are listed on the application. Valid CWEA members qualify for a discounted member rate. The non-member rate includes a one-year CWEA membership. If an applicant does not wish to take advantage of the membership, they must note it on the application.

Minimum Qualifications: Qualifying Education and Experience

Applicants must meet the minimum qualifications for the exam at the time the application is submitted. The table below gives the combinations of education and/or experience that will satisfy the requirements. There is no education or experience requirement to take any Grade 1 exam, however, the Grade 1 exams test at the level of one year of experience in the field. Education and experience should be relevant to the vocation and reflect the knowledge for that grade level. Applicant’s experience must be indicated on the application under “Job Duties”. Applicants should provide sufficient detail to demonstrate they possess the relevant experience. CWEA may verify job history by contacting employers.

<table>
<thead>
<tr>
<th>GRADE 1</th>
<th>Qualifying Combination</th>
<th>EDUCATION/CERTIFICATIONS</th>
<th>EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NONE REQUIRED TO TAKE EXAM</td>
<td>NONE REQUIRED TO TAKE EXAM</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GRADE 2</th>
<th>Qualifying Combination</th>
<th>EDUCATION/CERTIFICATIONS</th>
<th>EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>NONE</td>
<td></td>
<td>4 full-time years in vocation</td>
</tr>
<tr>
<td>B</td>
<td>Hold Grade 1 certificate in vocation for 1 year</td>
<td></td>
<td>2 full-time years in vocation</td>
</tr>
<tr>
<td>C</td>
<td>Associate’s, or higher, degree in a related field</td>
<td></td>
<td>2 full-time years in vocation</td>
</tr>
<tr>
<td>D</td>
<td>Bachelor’s, or higher, degree in a related field</td>
<td></td>
<td>1 full-time year in vocation</td>
</tr>
<tr>
<td>GRADE 3</td>
<td>Qualifying Combination</td>
<td>EDUCATION/CERTIFICATIONS</td>
<td>EXPERIENCE</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------</td>
<td>--------------------------</td>
<td>------------</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>NONE</td>
<td>6 full-time years in vocation</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Hold Grade 2 certificate in vocation for 2 years</td>
<td>4 full-time years in vocation</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>Associate's, or higher, degree in a related field</td>
<td>4 full-time years in vocation</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>Bachelor's, or higher, degree in a related field</td>
<td>3 full-time year in vocation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GRADE 4</th>
<th>Qualifying Combination</th>
<th>EDUCATION/CERTIFICATIONS</th>
<th>EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>NONE</td>
<td>8 full-time years in vocation with 1 year supervising others</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Hold Grade 3 certificate in vocation for 2 years</td>
<td>6 full-time years in vocation with 1 year supervising others</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>Associate's, or higher, degree in a related field</td>
<td>6 full-time years in vocation with 1 year supervising others</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>Bachelor's, or higher, degree in a related field</td>
<td>5 full-time years in vocation with 1 year supervising others</td>
</tr>
</tbody>
</table>

Application Approval

Once an application has been approved, the applicant will receive a Certification Application Approval Notification via email. It is very important that applicants use a current email address when filling out the application. CWEA will only contact applicants in regard to their application status via email. The Certification Application Approval Notification will contain the certification exam the applicant has been approved for, the exam window and CWEA ID number. This ID number is needed when contacting Pearson VUE to schedule an exam appointment.

Rejected Application

Applications will be rejected if applicants do not meet all requirements at the time they apply. CWEA will refund the application fee minus a $40 admin fee. Refunds are automatically issued within two weeks of rejection to the original form of payment. Candidates may request that their rejected application be reviewed by the Technical Certification Program Executive Committee by submitting a request in writing to the TCP department.
Code of Ethics

All CWEA certification holders and applicants are expected to meet the following standards of professional conduct and ethics:

1. To protect public health, themselves, their co-workers, property, and the environment by performing the Essential Duties of the CWEA certified vocation safely and effectively, and complying with all applicable federal, state and local regulations.

2. To represent themselves truthfully and honestly throughout the entire certification process.

3. To adhere to all test site rules and make no attempt to complete the test dishonestly or to assist any other person in doing so.

4. To refrain from activities that may jeopardize the integrity of the Technical Certification Program.

The CWEA Code of Ethics establishes basic values and standards of conduct for certification applicants and certification holders. Any action of a certification holder or applicant that compromises the reliability of the certification process may be subject to the process described by the Ethics Procedures.

The Ethics Procedures provide a fair process for dealing with ethics complaints. The procedures define the participants in an ethics case and how each case will be handled. Individuals going through the process will be given opportunities to defend themselves and appeal any decisions made. The Ethics Officer handles all official ethics complaints and determines if there is enough merit in each case to follow through with the procedures. If appropriate, the Ethics Officer may suggest mediation to resolve ethics disputes without the formality of going through the entire procedural process. This information is paraphrased for clarity from the 05-01 CWEA Code of Ethics and Ethics Procedures.

The full process can be viewed here: CWEA Ethics Policy.

Some examples of violations would be:

- Providing false work history on an application
- Using prohibited reference materials during a test
- Taking test materials from a test site
- Falsifying documentation of continuing education contact hours

Any action that might undermine CWEA’s process of certifying basic minimal competency will be investigated.
Non-Discrimination Policy
CWEA does not discriminate among applicants on the basis of age, gender, race, religion, national origin, disability, sexual orientation or marital status.

Accommodations
In compliance with the Americans with Disabilities Act, reasonable accommodations will be provided for those individuals who provide CWEA with a physician’s certificate, or its equivalent, documenting a physical or psychological disability that may affect the individual’s ability to successfully complete the certification examination. Written requests for reasonable accommodations must be submitted with the application.

Language barriers and lack of familiarity with computers are not covered under ADA laws.

Privacy
CWEA is committed to protecting privacy. Exam results and any other information regarding an application are confidential and will only be released to the applicant. Basic certification information is available on our Certification Registry. Employers can use the registry to verify an individual’s certification status.

Out-of-State Programs
Anyone anywhere in the United States can apply for CWEA certification. Our certifications are specific to the state of California.

CWEA partners with the following water environment associations to administer certification exams for their members:

- Hawaii Water Environment Association
- Michigan Water Environment Association
- Missouri Water Environment Association

Candidates wishing to earn certification through one of those associations should be sure to use the correct application that is specific to that association.
Reciprocity
CWEA does not grant certification by reciprocity. For other certification programs that do offer reciprocity, CWEA will provide any information necessary for verification upon request.

Scheduling an Exam

Scheduling an Exam Appointment
Once an applicant receives the approval notification email, they will be eligible to schedule an exam appointment. Applicants can schedule an exam appointment through Pearson VUE’s website by creating an account or by logging into an existing account. The applicant’s CWEA ID number is needed when creating an account. The CWEA ID number can be found in the approval notification email. To schedule an appointment over the phone, call Pearson VUE at 888-749-3381. Test centers are conveniently located throughout the U.S. Locations can be found on Pearson VUE’s Test Center Search.

Cancelling an Existing Appointment
To cancel an appointment, applicants must notify Pearson VUE 24 hours before their scheduled appointment time. Failure to notify Pearson VUE at least 24 hours before the existing appointment will result in a $75 No Show fee. Pearson VUE will send applicants a Cancellation Confirmation to the email on file in their Pearson VUE account.

The following are considered No Shows and will result in a $75 No Show fee:

- Failing to appear at a scheduled test appointment
- Arriving at the test center without a current, government-issued photo ID
- Arriving at the test center 15 minutes or later to a scheduled test appointment

Applicants must pay the No Show fee to schedule a new test appointment. Applicants should contact the CWEA office to reschedule.
Rescheduling an Exam Appointment
To reschedule an existing appointment within the same exam window, applicants must call Pearson VUE directly at least 24 hours before their existing exam appointment, for details see Cancelling an Existing Appointment (p. 11).

Applicants must contact the CWEA office to reschedule (transfer) an existing exam appointment to a different exam window. Before contacting CWEA, the applicant must cancel their existing appointment.

Transferring Exam Windows
Applications are valid for one year from the first date of the applicant’s original test window. Applicants may transfer exam windows throughout the year. The first transfer is complimentary, subsequent transfers are $40.

Applicants can request a transfer at any time. If an applicant does not test by the last date of their original exam window, CWEA will automatically initiate a transfer and the applicant will be notified via email.

Preparing for the Exam
Exam Content
For each exam there are preparation materials that contain an outline of the exam content. The outline describes the competencies required of an individual to successfully perform the essential duties of a job at a given grade level. Candidates should familiarize themselves with the content of this outline. To be successful on the exam, candidates will need to have adequate training, education, and experience in those areas of the vocation. The exam outline is developed from a job task analysis that includes research of the essential duties at a representative cross-section of systems and facilities throughout California. While the outline may not correspond to any specific position and/or job description, they do reflect the core competencies and essential duties required of the vocation at a particular grade level.

Corresponding materials for each exam can be found on the CWEA website and in the Online Store.
Completing a Gap Analysis

CWEA certification exams are experience based. The Gap Analysis Tool is designed to help candidates identify which grade level is best suited to their current level of experience, and where they may be lacking sufficient experience.

This free self-evaluation is available on the CWEA website for all vocations.

Creating a Study Plan

Candidates are encouraged to develop their own personal study plan based on individual needs, experience and knowledge. Candidates should seek as many different study materials as possible as well as attend educational events and on-the-job training. This is especially important for areas in which the candidate is not adequately prepared.

CWEA’s exams do not correspond directly to any specific textbook, educational course, or program. Instead, the exams are based on an analysis of the duties commonly performed in actual practice.

CWEA Local Section Training

It is the goal of CWEA’s Technical Certification Program to operate in line with established best practices for certification programs. As such, CWEA is careful to separate its education and training activities from its certification program to ensure that no conflict of interest exists. Any educational materials or trainings that are designed to prepare candidates for an exam are developed and conducted by individuals that do not have access to the exams.

CWEA Local Sections host education and training events throughout the year that focus on the job duties tested by our certifications. These trainings are limited based on demand and volunteer availability.

Local Section trainings can be found on the CWEA Events Website. For questions about a Local Section training, please contact the Local Section directly. Contact information for individual Local Sections can be found in our Directory.
Test Site Information

Test Site Admission
Applicants are required to show at least one current, valid, government-issued photo identification, such as a state driver’s license or ID, or passport. A temporary license is acceptable if there is an expiration date, or if it is accompanied by paperwork explaining an expiration date.

Calculators Allowed
An onscreen calculator with basic and scientific capability is available on all CWEA exams. Applicants may bring a handheld calculator as long as it is from the CWEA approved calculator list:

<table>
<thead>
<tr>
<th>Calculator</th>
<th>Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casio</td>
<td>All FX-115 models (any Casio calculator with FX-115 in its name)</td>
</tr>
<tr>
<td>Texas Instruments</td>
<td>All TI-30x and TI-36x models</td>
</tr>
<tr>
<td>Sharp</td>
<td>EL models except EL-W516B and EL-W535B</td>
</tr>
</tbody>
</table>

Pearson VUE’s Candidate Rules Agreement
Pearson VUE maintains its own rules regarding professional examinations. All applicants are required to sign the Candidate Rules Agreement at the test center prior to sitting the exam. Applicants are responsible for knowing and complying with these rules. CWEA recommends all applicants familiarize themselves with this agreement prior to testing.

After the Exam

Exam Result Notification
Applicants will see their score on the screen immediately after the exam is submitted. An Unofficial Score Report will be printed out and given to the applicant before they leave the test center. To request an emailed copy from Pearson VUE, please call 888-749-3881. All results are confidential and will only be released to the applicant. No results will be given over the phone, by fax or email. CWEA will mail an Official Score Report no more than four weeks after the exam date.
Appeal Policy
All appeals must be submitted within two weeks of the exam date. Appeals will be reviewed by CWEA staff and/or Subject Matter Experts. Candidates will be updated on the status of their appeal within 4-6 weeks, and they will be notified in writing when a decision has been made. Once an appeal has been processed, candidates cannot submit a new appeal for the same exam.

Candidates cannot submit an appeal simply because they did not pass the exam.

Candidates can appeal under the following justifications:

Exam Delivery Appeal
To appeal conditions at the test center, such as test site issues, test administration issues or computer problems, simply fill out and submit an appeal form. CWEA staff will review the appeal and consult our exam administrator, Pearson VUE, to investigate the appeal if necessary.

Exam Question Appeal
If the candidate wishes to appeal specific exam questions, they may flag the question during the exam using the Flag to Enter a Comment function. Candidates are allowed to add comments about any question as long as there is time remaining. All comments are reviewed for feedback, but candidates must submit an appeal form within two weeks in order for those comments to be considered for an appeal of exam results.

Non-substantive appeals or appeals without just cause will be automatically rejected. If candidates are not satisfied with the outcome of their appeal, they may request a review by the Technical Certification Program Executive Committee. Their decision will be final.

The appeal form can be accessed here: CWEA Exam Appeal Form.

Re-test Application
If the candidate does not pass the exam the first time, they can submit a Re-test Application along with the appropriate fees. The candidate will be required to skip at least one exam window before they are eligible to re-test. If the candidate tested within the first 15 days of a window, they are not required to skip an exam window. There are no exceptions to this policy.
To be eligible to use the Re-test Application form, candidates must submit the application within one year of their original exam date. Re-test applicants are automatically approved as long as they are applying for the same grade level or a lower grade level.

Receiving the Certificate and Blue Card
Certificates and Blue Cards will be issued to all candidates who pass their exam. The certificate contains the certification number and expiration date. The Blue Card contains the expiration date, contact hour due date and contact hour period. These documents are mailed along with the Official Score Report within 4 weeks to the address on file with CWEA. Candidates are responsible for making sure this address is current.

Maintaining Certification

How to Renew
All certifications must be renewed annually. Certifications expire one year from the last day of the month in which the certification was earned. Renewal notices are mailed to certification holders three months before the expiration date. Certification holders can pay their renewal online by logging into their mycwea.org account or by mailing their renewal notice with a check or credit card information to the CWEA office.

Certification holders are required to meet continuing education requirements. This requirement is met by completing 12 contact hours (1.2 CEUs) of vocation-related education or training every two years. For more information about earning contact hours, for details see Earning Contact Hours (p. 17).

Not meeting these requirements by the expiration date will cause the certification to expire. Certifications that have been expired for more than three months are subject to a $25 late fee. If a certification holder does not meet the renewal requirements within two years of their expiration date their certification will permanently expire. To become certified once again, the individual must re-apply for certification and pass the exam. It is the certification holder’s responsibility to ensure that his or her certification remains valid. There are no exceptions to these policies.
Renewal Fees
Current fees are listed on the CWEA website. Valid CWEA members qualify for a discounted member rate. The non-member rate includes a one-year CWEA membership. If an applicant does not wish to take advantage of the membership, please inform CWEA.

Continuing Education Requirement
Certification holders are required to meet continuing education requirements. This requirement is met by completing 12 contact hours (1.2 CEUs) of vocation-related education or training every two years. One contact hour is defined as 50 minutes of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction.

Contact hours must be earned within the contact hour period. Hours are earned on the date of completion of the educational or training program. The program may begin before, but must be completed during the contact hour period. If a certification holder will not earn the required hours within their contact hour period, they must notify CWEA before the period ends if they wish to remain certified, for details see Temporary Deactivation (p. 18).

Individuals holding more than one CWEA certification can apply the same contact hours to each certification as long as the training is relevant to each vocation. Any kind of training is acceptable as long as it is related to the vocations in which certification is held. CWEA may send contact hour certificates to Subject Matter Experts to determine relevancy.

In-house training can be used to meet this requirement. In-house training includes any training that is conducted by an employer, or a trainer contracted by an employer.

Earning Contact Hours
Contact hours may be earned by any of the following activities:

- Attendance at educational/training programs, including in-house training
- Teaching, instructing or presenting educational/training material (1 hour per 25 min)
- Developing and reviewing CWEA certification exam content as a Subject Matter Expert (1 hour per 25 minutes)
- Authorship of published books or articles (2 hours per book or article)
- Re-testing and passing the relevant CWEA certification exam (12 hours)
• Membership in professional membership organizations (.5 hours per year, per membership, with a maximum of 6 hours per contact hour period)

CWEA may require and request additional documentation to assess the authenticity and/or relevance of these activities.

This information is paraphrased for clarity from the 02-03 TCP Re-Certification Policy; a full copy of the policy can be requested by contacting the TCP department.

Contact Hour Documentation
Proof of contact hour completion for an educational/training program must meet these following guidelines:
• The name of the training organization
• The training title
• The name of the attendee who completed the program
• The number of contact hours earned
• The date of completion
• An official signature or stamp from the training organization, instructor's signature is acceptable

For other continuing education activities, CWEA may request additional information. Any documentation that does not meet these guidelines will not be accepted. It is the certificate holder’s responsibility to retain verification of records documenting earned contact hours and submit proof to CWEA.

Contact Hour Audit
Audits are conducted on a regular basis by CWEA to ensure that certification holders are complying with the continuing education requirement and that the documentation meets the guidelines. Certification holders are randomly selected for an audit of contact hours. The audit reviews the relevancy of the trainings to the vocation, and the dates in which the contact hours were earned, to ensure that they fall within the appropriate contact hour period.

Selected participants will be notified via email that they have either successfully passed the audit, or that CWEA requires further information.
Temporary Deactivation

The Temporary Deactivation program is for certification holders that will not meet the continuing education requirement for recertification by their expiration date. Under this program, certification holders can request that CWEA temporarily deactivate their certification for up to two years from their expiration date. This grants the individual extra time to earn the required contact hours. During the time of temporary deactivation, the CWEA certification is invalid and may not be used. Certification holders can apply for reactivation once they fulfill all requirements. Certification must be in good standing to qualify for this program. For more information including current fees, or to request an application for temporary deactivation, contact the CWEA office.

The application must be submitted before the certification expiration date. There is no exception to this policy.

Reinstating Certification

If a certification expires, it is invalid until all recertification requirements are met. There is a three-month grace period before a certification is considered lapsed. Once a certification becomes lapsed, the certification holder will need to pay a $25 late fee in addition to meeting the renewal requirements. Certification will remain lapsed for up to two years from the expiration date. If a lapsed certification is not renewed within the two-year period, the certification becomes permanently expired.

Expired Certification

Certificates expired for two years, or longer, cannot be reinstated under any circumstances. To become certified once again, the individual must re-apply for certification and pass the exam. It is the certification holder’s responsibility to ensure that his or her certification remains valid. There are no exceptions to these policies.

Retiring Certification

Certification holders can request that CWEA retire their certification at the time it expires if they no longer wish to hold it. Once a certification has been retired, the certification will no longer be valid and CWEA will cease all communications regarding the certification.
Exam Design and Format

Exam Design
All certification exams are designed to test knowledge required to perform the essential duties of a job at a given grade level with minimum acceptable competence. Exams are created by Subject Matter Experts under the guidance of exam development professionals.

Exam content is developed from a job task analysis that includes research of the essential duties at a representative cross-section of systems and facilities throughout California. All exam items are written by subject matter experts based on the content outline established by the job task analysis. These items are used to create the exam forms. The pass point for each exam is based on difficulty, using the Modified Angoff Method, for details see Pass Point and How Pass Points are Set (p. 21).

Exam Delivery Mechanism
All exams are computer-based format and are available in the English language only. Exams are delivered at Pearson VUE testing centers.

Exam Format
All certification exams are in multiple-choice format. Multiple-choice is considered the most effective format for use in standardized tests as it allows for greater content coverage for a given amount of testing time and improves competency measurement reliability. Multiple choice questions range in complexity from simple recall of knowledge to the synthesis and evaluation of the subject matter.

Weighting
The percentage of the exam that covers a particular content area is referred to as its weighting. Weightings are established through a Job Task Analysis and are based on the frequency and criticality of the task. A weighting is approximate and shows the relative importance of a particular area compared to the other portions of the exam. Weightings are indicated on the content outline for each exam and can be found in the preparation materials. Each weighting on the actual certification exam may vary slightly.
Pass Point
An exam pass point is the minimum score required to pass a certification exam. The pass point is also known as a cut score or passing score. Candidates should try to score as high as possible on their test. Pass points for CWEA certification tests vary with each test form. The pass point for each vocation, grade level and exam form is set independently. Different versions of the exam are given each time the certification test is administered.

How Pass Points are Set
A modified Angoff Method is used to determine the pass point for each version of each exam. The modified Angoff Method uses expert judgments to determine the difficulty level of the exam. The easier the exam, the higher the pass point. Likewise, the more difficult the exam, the lower the pass point.

The following is a basic outline of the modified Angoff Method (some details have been omitted):

1. A group of Subject Matter Experts (SMEs) independently rate each exam question within a given exam. The ratings are defined as the probability, or likelihood, that a minimally competent person with the requisite education and experience will answer the question correctly. A minimally competent person is defined as someone who adequately performs all job functions safely and requires no further training to do so.
2. The SMEs review each exam question as group. A consensus is reached for the rating of each exam question. During this time the SMEs review comments submitted in writing by exam-takers. Any exam question that is judged to be ambiguous, has more than one correct answer, or has no correct answers is eliminated from the scoring process for that exam. These exam questions are then revised for future use, re-classified, or deleted from the exam item bank.
3. After the data are refined, the final step is to calculate the mean, or average, of all the exam question ratings. This becomes the overall pass point estimation.

Why Use Modified Angoff?
Each version of a given certification exam pulls questions from an exam item bank. Each of these questions varies in difficulty. Because a different mix of questions is used in each exam form, the overall difficulty level is not fixed. Thus, it is important to make sure that the varying difficulty level is reflected in the pass point of each exam to ensure that results are reliable. Exam reliability is concerned with the reproducibility of results for each version of a given exam. In other words, for an exam to be reliable it must yield the same result (pass or fail) for the same individual under very similar circumstances. For example, imagine a candidate takes an exam at a certain grade level and passes it. Immediately after
completing the exam, the candidate takes the same grade level exam, but a different version. If the exam is reliable they will achieve the same result: pass. If they do not, it is likely that the exam is not a reliable measure of minimal competency.

By taking into consideration the difficulty level of an exam, the modified Angoff Method significantly increases the reliability of the exams. Also, since each exam is adjusted for difficulty level, each exam version has the same standard for passing. Thus, exam-takers are treated equitably and fairly, even if they take different versions of the exam.

There are other methods for setting pass points. However, for the type of exams administered by CWEA, the modified Angoff Method is the best.

Exam Scoring
All exams are electronically scored by Pearson VUE. Most exam items are valued at one point. After exams are scored, total points are compiled, and an overall score is calculated as the sum of all points earned on the exam. If the overall score is equal to, or greater than the established pass point, the candidate has passed the exam. Total points possible for each exam varies, but the average is 100 points plus or minus 25.

Summary of Certification Activities
A summary of certification activities for each vocation is available upon request. The summary includes the number of candidates examined, pass/fail statistics, and the number of individuals currently certified. To request this information, please contact the CWEA office.