

Carpenters International Certification Council

**Certified
Rigger & Signaler
(CRS)**

**Candidate
Information
Brochure**

UNITED BROTHERHOOD OF CARPENTERS
INTERNATIONAL TRAINING CENTER

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Carpenters International Certification Council

The CICC is a strategic partner with the Carpenters International Training Fund (CITF) designated by the CITF to develop and manage certification programs targeted to United Brotherhood of Carpenter (UBC) members.

The mission of the CICC is to improve performance, reduce workplace risk, and safeguard personnel by overseeing that only trained, skilled and qualified individuals complete the work. As part of this mission, the CICC has developed the Certified Rigger and Signaler (CRS) credential. The purpose of credentialing Rigging and Signaling personnel is to provide the public, contractors, and coworkers with confidence in the quality of the deliverables and the safety of the practices being employed.

You can contact the CICC by emailing CICC@carpenters.org. You can learn more about the certification program by visiting the following website:
www.UBCCertifications.org.

The objectives of the CICC are to:

1. Establish certification programs designed to improve and enhance the skills of UBC members to meet the needs of the construction industry in Canada and the United States.
2. Maintain a systematic review of certification programs.
3. Modify or revise certification programs as warranted.
4. Review and act on issues that may result in disciplinary action.
5. Review and act on all candidate complaints and appeals.

Revised 6/29/21

Certified Rigger and Signaler Program

The CICC offers a certification and the CRS designation to those candidates who meet the ANSI Safety Requirements for Rigging Qualifications and Responsibilities in the Construction Industry and OSHA 1926 Subpart CC – Cranes and Derricks in Construction.

The eligibility requirements and test materials for the CRS certification program were developed based on a thorough practice analysis validation study of the scope of practice and current state of knowledge and skills required in the rigging and signaling trade. A practice analysis survey of UBC member riggers and signalers from across the United States and Canada was conducted in 2016 to define the scope of practice and determine the appropriate content areas for the CRS tests. The questionnaire was designed to identify the knowledge and skills necessary to complete the day-to-day tasks of rigging and signaling trade professionals.

A representative group of rigging and signaling experts reviewed the data derived from the questionnaire. They identified the scope of practice for riggers and signalers based on data, thus ensuring that the content of the CRS exams reflects the day-to-day practice of riggers and signalers in the United States and Canada. The results of the validation study were organized into a comprehensive examination plan, including three knowledge dimensions and eight sub-dimensions that can be found on page 5 of this document.

The CRS written examinations are created by test development psychometricians in close concert with a panel of rigging and signaling experts who write and review all examination questions. Every question is also reviewed by a psychometrician, a trained expert in examination writing, prior to being selected for a written examination. Questions are selected for examinations on the basis of the content areas defined by the validated examination plan mentioned above.

After the written test has been administered to a sufficient number of candidates, the examination questions are analyzed statistically to identify any hidden flaws. Questions that appear to be flawed are discussed by CICC rigging and signaling experts to determine if credit should be given for more than one answer. After these issues are resolved, the test is scored.

The test question pool for the CRS certification program is updated on a regular basis to reflect current practices in rigging and signaling. Individual questions that have been shown by statistical analysis to be unclear or unfair are modified or deleted from the pool of examination questions.

The CRS certification written examinations have been designed to meet testing industry standards for validity and reliability. Validity is the degree to which the content of the test reflects the knowledge required to perform the duties of a rigger and signaler in a competent manner. Reliability is the consistency of the test results, i.e., the degree to which the test results are free from error.

The CRS practical examinations are developed as fair and objective assessments of the essential skills a CRS needs to safely work in rigging operations. The examinations are developed with rigging and signaling experts

from various specialty areas (i.e., carpenters, millwrights, pile drivers) from across the United States and Canada.

The CICC worked closely with test development psychometricians to guide all CRS program activities. Test development psychometricians guided the CICC in establishing key elements of the program, including identifying essential knowledge and skills and linking those to rigging and signaling tasks, standardizing test conditions for the written and practical exam administrations, developing the scoring process, establishing consistency across test forms, and creating secure test administration procedures.

Certified Rigger and Signaler (CRS) designees are skilled in multiple areas including:

1. Inspects hardware, slings, and rigging equipment
2. Selects the proper hardware for hoisting operations (e.g., takes into account the effect of friction on synthetic slings or hardware)
3. Accounts for the effect of the configuration on the sling stress
4. Performs proper hardware installation and attachment techniques
5. Communicates movements to crane operator using the appropriate voice or hand signals
6. Takes into account the effect of voice or hand signals on the load and the crane
7. Recognizes hazards (e.g., extreme angles, pinch points, criteria for critical hoist)
8. Adjusts for the gross weight of the load in hoisting operations
9. Determines the load weight and center of gravity of symmetrical loads accurately
10. Takes into account how shifting centers of gravity affect load stability

11. Identifies proper attachment points based on center of gravity and hitch configuration
12. Determines types of knot to use based on material and application

Certification holders may state that they are Certified Riggers and Signalers and may use the CRS designation to market credentials on business cards, resumes, etc.

Additionally, each CRS receives a certificate and their credentials are posted on a wallet-sized verification card. The verification card has a Quick Response (QR) code that links to an electronic database of certification and qualification records. The certificates and electronic records contain the name, date of expiration, and the unique membership identification number of every individual who has successfully completed the CRS assessments.

Certification Eligibility and Approval

To become a CRS, a candidate must be a UBC member and must successfully complete a knowledge-based written examination and a hands-on practical skills assessment. By passing these examinations, a candidate demonstrates competency in the knowledge and skills required to perform safely and effectively as a CRS.

Prerequisites

In order to qualify to sit for the CRS assessments, a candidate must first attend at least 29 hours of training that includes both knowledge transfer and practical safe application. Course content must be designed

to add to the hands-on experience gained in the field using rigging techniques and hardware.

The course must include information about safety, wire rope, chain construction, slings, hardware, and knot-tying techniques. Additionally, the training must address rigging procedures, including common hitch configurations, hardware and sling attachments, working with different types of cranes, and directing crane movements with hand and voice signals used by riggers to signal crane operators.

The training must also include important safety precautions and practices as they apply to each activity. In any rigging operation, safety is of maximum importance. All riggers and operators on the jobsite are responsible for their own safety as well as the safety of others. Safety considerations include proper inspection and upkeep of rigging hardware and equipment. It is imperative that the training include detailed instructions on how to properly inspect (i.e., check for damage) and care for rigging equipment to ensure a long service life.

It is the candidate's responsibility to find training that fulfills the requirements of the CRS program. Any UBC-affiliated Training Center that offers the CITF curriculum taught by authorized instructors qualifies as an approved training provider. Candidates that would like to obtain credit for taking training from another training provider must submit the following documentation to the CITF for approval: copy of the training curriculum, certificate of completion with date of training, expiration date, instructor's name, and training provider.

Certification Application and Exam Registration Instructions

If you are a member

Contact your local center to schedule a session for the next certification administration date.

All candidates must accept the terms and conditions and adhere to all policies and procedures outlined in the Candidate Agreement before taking the certification exam. All candidates under the age of 18 must have their Candidate Agreement countersigned by their parent or legal guardian.

If you are not a member

Only UBC members are eligible for the CRS program. Contact the nearest UBC local union to join.

ID Requirements

When checking in at a Pearson VUE Testing Center for the written exam, candidates must present two (2) forms of original (no photo copies or digital IDs), valid (unexpired) IDs in order to site for the exam; one form as a **Primary ID** (government issued with name, recent recognizable photo, **and** signature) and one form as a **Secondary ID** (with at least a name and signature, or name and recent recognizable photo). The first and last name that the candidate uses to register must match exactly the first and last name on both IDs that are presented on test day.

When reporting for the practical exam, candidates must present one (1) form of government-issued photo identification (e.g., Driver's License, State ID, Canadian ID, Military ID, or Passport) in order to sit for the exam. The government-issued photo

identification must contain the candidate's date of birth and must be current. Candidates without proper ID are not allowed to test.

Materials to Bring/ Not to Bring

For the written test, candidates are permitted to use their own calculators provided they do not have a QWERTY keyboard, camera, access to the internet, or notes capability. If a candidate does not bring their own calculator on the day of the exam, they may use the scientific and standard 10-key calculators that are built into the online exam.

NO other items are allowed in the testing room. Restricted items must be left in the candidate's vehicle, or placed in the locker assigned to the candidate at the time of check in.

For the practical test, candidates must wear the appropriate personal protective equipment (PPE): hard hat, safety glasses, long pants, and work boots.

Candidates who do not abide by these policies will be dismissed and their test will be voided.

Certification Renewal & Continuing Education

The CRS certification is valid for four years from the last day of the month that the certification was granted. Prior to the certification expiration date, a CRS must renew their CRS certification or become a Certified Master Rigger and Signaler/ Lift Director (CMRS/LD) prior to the CRS expiration date. If the candidate becomes a CMRS/LD prior to their CRS certification expiration date, the member does not need to renew the CRS certification. The CMRS/LD

certification is considered to take the place of the CRS certification and the candidate should follow the renewal policies associated with the CMRS/LD.

To renew the CRS certification, a member must pass the written exam within one year prior to certification expiration. There are two options:

- Opt-in to prerequisite training prior to testing: These candidates opt to complete prerequisite training before taking the written test. If they pass the test, they are recertified. If they fail the test, candidates must retest after 30 days and prior to their certification expiration date.
- Opt-out of training and have one-time chance to pass the test: These candidates opt to take the written test without taking the prerequisite training. If they pass the written test, they are recertified. If they fail the test, candidates are not eligible to retest until after they complete prerequisite training. If they complete training prior to their certification expiration date, they have until their certification expiration date to pass the written test to recertify. If they wait until after their certification expiration date to take training, they have one year to pass the test to become certified again.
- In addition to the written exam, certificants must pass the practical skills assessment every other certification period (i.e., every eight years). Candidates who opt to take the practical test without completing practical test practice training will only be allowed one chance to pass the practical test. If they fail the practical test, they must start the program from the beginning (complete prerequisite training, pass the written test, complete practical test practice, and pass the practical test).

If renewal is not completed by the certification expiration date, candidates are not eligible to renew and must start the program from the beginning.

CRS Examination Content

Written Examination

Candidates are allotted three hours to complete the written exam. The content of the exam follows the plan (detailed below), which was derived from an in-depth practice analysis validation effort completed in 2016.

The written exam has a total of 100 questions, which includes 20 experimental items throughout. These experimental items do not count against a candidate’s exam score and are included to collect information on questions that may be incorporated into future test forms.

The table below provides a detailed overview of the number of questions included on the examination for each test domain.

Dimension & Sub-Dimension	Number of Items on Exam
Rigging & Equipment Components	
Inspection	18
Selection	16
Rigging Procedures	
Hitch Configuration	15
Application	14
Signaling	5
Rigging Safety	
Critical Hoist/Planning & Site Awareness/ Personnel Safety	7
Load Stability	5
TOTAL	80

Practical Assessment

The assessment involves hands-on job simulation activities and is divided into the following two parts:

1. Making a hoist of the rigging prop using a three-point asymmetrical hitch using voice signals
2. Making a one-point rollover hoist of the rigging prop using hand signals

This practical skills assessment simulates real-life situations in rigging and signaling. The rationales for including each assessment are provided below.

Voice Signals – Asymmetrical Hitch with a Live Leg

This evaluation represents lifting an object that has an offset center of gravity. To successfully complete this assessment, the candidate must attach and adjust the required hardware to lift the prop so that it remains level. Using the proper voice signals, the candidate will direct the crane operator to lift the prop and relocate the prop at a specified location while maintaining control, level, and elevation of the prop during the hoist.

Hand Signals – Making a One-Point Rollover Hoist of the Rigging Prop

This is the method used to lift long objects and change the orientation of their long axis from horizontal to vertical and return to horizontal from vertical. This hands-on evaluation requires the candidate to use hand signals to direct the operation of hoisting the rigging prop from a horizontal plane to a vertical plane, and return to a horizontal plane.

Written and Practical Test Development

The design and administration of the examination meets the most rigorous test validation and development standards for certification programs. Activities and meetings were conducted to provide an examination and scoring process that meets the requirements set forth by the National Commission for Certifying Agencies (NCCA) Standards for the Accreditation of Certification Programs (ICE, 2014).

Examination questions for the CRS tests were developed to target the required information listed in the ANSI A10.42 -2000 (R2010) and OSHA 29 CFR 1926 Section CC Standards to ensure that assessments are consistent with the published purpose of the certification. The examinations were designed based on the input and evaluations of expert riggers and signalers regarding the most important parts of the profession. There are specific links from the approved references and the job analytic data to the written and practical examinations.

Preparing for the Examination

The following reference list provides suggested materials that could assist you in preparing for the examination. This is not an open book examination; candidates are not allowed to bring reference materials into the test administration site.

1. Bob's Rigging and Crane Handbook
2. Construction Safety Rigging Manual of Ontario
3. IPT Crane and Rigging Manual
4. OSHA 1926 Construction Standards
5. UBC Rigging Training Manual
6. Rigging Handbook

Alternate Test Forms

To maintain a high-quality, defensible certification program, new examination questions are continuously created such that each alternate form of the examination contains a subset of new items. Not only is this volume necessary to ensure the examinations contain high-caliber, updated items, but it also ensures a sufficient number of new items to avoid them being overexposed or compromised over time.

Because this type of test maintenance occurs, efforts are made to statistically ensure that each examination is equally as difficult as any other examination form. Thus, the likelihood of passing any form of the CRS test is statistically identical, even though the questions on the examination are updated.

Cut Score or Passing Point

A cut score serves as a decision point in the certification process. In essence, a cut score (or passing point) makes a pass-fail decision. Cut scores for the CRS exams are never determined in an arbitrary manner. Each item on the exam is analyzed through a rigorous process to determine the cut score for each exam. These predetermined cut scores screen out candidates who do not possess the required proficiency needed to perform effectively as a CRS. A cut score can be thought of as the interpretation of the standard of competence for the certification program.

Written Examination

With multiple test forms, it is not appropriate to set a specific pass point. For this reason, the pass point for each exam is adjusted

statistically based on the difficulty of the questions on a test.

Specifically, the differences in exam difficulty among different administrations are calculated and then the pass points of the new examination forms are adjusted, so the same benchmark standard can be used for each exam. By accounting for differences in difficulty across examination forms, all candidates have a comparable opportunity to pass the examination, regardless of when they take it.

For example, if the new examination is more difficult relative to previous examinations, the percent correct necessary to pass the exam will be lowered to equal the benchmark standard. On the other hand, if a new examination turns out to be easier, the percent correct necessary to pass will be increased to equal the benchmark standard. Candidates who do not meet the benchmark standard on the written examination will not achieve certification.

To allow for consistency and ease of interpretation, candidates' scores are changed from their raw score (i.e., number correct) to a scaled score. Specifically, the raw scores are changed to a scale that ranges from 200 to 800, where 500 is the pass point. Therefore, regardless of how the test difficulty changes over time, the way the scores are interpreted will always remain the same. That is, a score from 500 to 800 will always indicate a passing score and a score from 200 to 499 will always indicate a failing score.

Practical Assessment

The hands-on practical skills assessment was developed to ensure objectivity of the criteria used to assess candidate performance and ensure consistency across evaluators. The

materials used during administration of the assessment help reduce differences between evaluators.

The CRS practical test includes 10 scoring units, evaluated on a Likert-type scale, ranging from E (Does Not Meet Expectations) to A (Exceeds Expectations). The validated standard for the practical assessment is scoring a minimum of 23 out of a possible 41 points evaluated across the two exercises of 1) voice signals – asymmetrical hitch with a live leg, and 2) hand signals – making a one-point rollover hoist of the rigging prop.

Candidates who do not meet the standard for the CRS practical test will not achieve certification.

Security of Certification Records

All CRS candidates are recorded in a password-protected database under the UBC member’s unique eight-digit membership ID number. Access to the records system is controlled. Only staff members of the CICC can modify the records of CRS recipients.

Scheduling Procedures

Local centers maintain schedules for all offerings, and each individual center has their own cancellation policy.

Special Testing Accommodations

The Carpenters International Certification Council (CICC) complies with the Americans with Disabilities Act (ADA) of 1990 or other applicable disability discrimination laws. To ensure equal opportunities for all candidates, CICC will make reasonable testing accommodations for candidates when appropriate and consistent with such legal

requirements. The CICC will consider requests for special testing accommodations related to the CRS exams from candidates who require such accommodations under applicable disability discrimination law (“accommodation”).

A physician or other qualified medical care professional who has made an individualized assessment related to the candidate’s request for an accommodation must provide the required information concerning the candidate’s requested accommodation. A qualified medical care professional is a licensed or otherwise properly-credentialed individual who possesses medical expertise for evaluating any requested accommodation. The information and any documentation that the candidate provides regarding the need for accommodation(s) will be treated as confidential.

The CICC requires that each candidate requesting a special testing accommodation complete and submit the form available online at www.ubccertifications.org by mail, fax, or email **at least 45 days** prior to testing. The Testing Accommodation Coordinator will send confirmation to the candidate that the request was received within five (5) business days of receipt. The confirmation will include the latest date when the candidate will receive notification of a decision. The Testing Accommodation Coordinator will respond with a final decision via email not more than 30 days after receipt of the request. For reasons of confidentiality, information regarding the granting or denial of testing accommodations will not be released by telephone. All approved testing accommodation requests will be communicated to the Single Point of Contact at the test center and are valid only for the written test date and/or practical test date indicated on the request form.

Forty-five (45) days advance notice is required for all testing accommodation requests.

Re-taking the Certification Tests

When a candidate does not pass the written test, he/she may retake the test after 30 days from the date of the failed test. There is no waiting period to re-take the practical test.

Voided Test Results

Candidate test results will be deemed invalid and the test may be voided in the following situations that include but are not limited to:

- CICC is unable to validate the identity or eligibility of the candidate to test for the following reasons:
 - Candidate's name does not appear on the Test Sign-In Sheet,
 - Candidate's ID is expired, and/or
 - Candidate's information on the Test Sign-In Sheet (candidate's name and birth date) does not match the information on the candidate's ID
 - Proctor did not document the candidate's date of birth and/or expiration date from the government-issued photo identification on the Test-Sign-In-Sheet
- If there are scoring anomalies to the extent the CICC is unable to validate the test score
- If the test materials are handled by anyone other than the proctor
- If the scantron is filled out by anyone other than the Practical Test proctor
- If the candidate tests prior to fulfillment of the 30-day wait period

- If the candidate is dismissed from the test by the proctor
- If there is any significant variation from test administration protocol

Complaints and Appeals

Complaints and Appeals

A Complaint form is available for complaints regarding the following situations:

- 1) Eligibility status
- 2) Scoring verification within fifty (50) points
- 3) Certification status

If a candidate believes he or she has been falsely denied eligibility to sit for an exam, failed an exam within fifty (50) points and would like his or her exam rescored, or believes his or her credentialing status has been falsely terminated, the candidate may submit a Complaint form. Complaint forms must be received by the CICC within 30 days of the date the candidate was notified of his/her denied eligibility, exam results, or certification termination.

The CICC will review the complaint, take appropriate action, and respond to the candidate in writing in a decision letter within 90 days of the date the candidate's complaint form was received. Complaints deemed frivolous will not be accepted or acted upon. The outcome of a complaint or disciplinary action may be appealed by submitting the appropriate appeal form within 90 days of the date of the decision letter. The CICC Appeals Panel will review all related documentation, take appropriate action, and report its finding to the candidate in writing in a final decision letter within 90 days of the date the candidate's appeal form was received. Appeals deemed frivolous will not be accepted or acted upon.

Complaint and Appeal forms and procedures are available at www.UBCCertifications.org or by contacting the CICC at CICC@carpenters.org or 212 Carpenters Union Way, Las Vegas, NV 89119.

Disciplinary Policies

When an accident occurs

Accidents and incidents perceived to be a result of negligence on the part of a certified individual should be reported to the Carpenters International Certification Council (CICC), 212 Carpenters Union Way, Las Vegas, NV 89119. In the event that a certificant is found to be at fault, the Professional Ethics and Disciplinary Committee (PEDC) has the authority to take disciplinary action.

The CICC Professional Ethics and Disciplinary Committee will review accident and incident reports to determine the appropriate action.

Policy/Ethical Violations

In the event that a certified individual, or an individual attempting to obtain certification, violates CICC policy or ethics by engaging in dishonest activities or demonstrating a lack of integrity, misrepresents his/her identity or eligibility status, gives or receives unauthorized assistance on the exam, or engages in other violations of established policies, the PEDC has the authority to take disciplinary action.

Disciplinary Procedures

All accidents, incidents, and policy/ethical violations will be documented thoroughly and succinctly for CICC review, with all identifying information, including first and last name, removed from the summary of information provided to the PEDC. The PEDC will then review all materials and determine the necessary/appropriate action. In the event

disciplinary action is necessary, the PEDC is authorized to take disciplinary action including, but are not limited to, the following:

- No action required
- Require partial re-evaluation to maintain certification
- Require full re-evaluation to maintain certification
- Void certification or prevent future attempts at certification
- Bar individual from CICC certifications for a certain period of time
- Bar individual from CICC certifications indefinitely

Once a decision has been made, a written decision letter will be provided to the alleged violator outlining the PEDC disciplinary action(s).

Disciplinary Appeals

The action of the PEDC may be appealed by the designee or the appellant by submitting the appropriate appeal forms to the CICC. The appeal should contain the PEDC's original disciplinary action decision letter and any supplemental documentation or information that may influence or change the initial decision.

The appeal letter can be sent via ground mail or email to CICC@carpenters.org or 212 Carpenters Union Way, Las Vegas, NV 89119.

The Appeals Panel will review all available information and determine whether the PEDC's action(s) should be overturned or changed in any manner. The Appeals Panel will report its finding to the candidate in writing in a final decision letter within 90 days of the date the candidate's appeal is received by the Appeals Panel.