

Carpenters International Certification Council

**Certified Master
Rigger and Signaler/Lift
Director
(CMRS/LD)**

**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 Master Rigger and Signaler/Lift Director (CMRS/LD) credential. The purpose of credentialing Master Rigger and Signaler/Lift Director 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.

Certified Master Rigger and Signaler/Lift Director

The CICC offers a certification and the CMRS/LD designation to those candidates who meet the ANSI Safety Requirements for Rigging Qualifications and Responsibilities in the Construction Industry, ASME B30 Standards, on Cranes and Related Equipment, and OSHA 1926 Subpart CC – Cranes and Derricks in Construction.

The eligibility requirements and test materials for the CMRS/LD 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 rigging, signaling, planning, and directing of lifts for assembly or disassembly in the construction industry. The practice analysis was conducted in 2016 and completed in 2017 to define the scope of practice and determine the appropriate content areas for the CMRS/LD test.

A representative group of lift directors, and rigging and signaling experts identified the scope of practice for the trade, thus ensuring that the content of the CMRS/LD exams reflects the day-to-day practice of riggers, signalers and lift directors in the United States and Canada. The results of the validation study were organized into a comprehensive examination plan, including two (2) knowledge dimensions and five (5) sub-dimensions that can be found on page six (6) of this document.

The CMRS/LD written examinations are created by test development psychometricians (trained experts in examination writing), in close concert with a representative group of lift directors and

rigging and signaling experts who write and review all examination questions. Every question is also reviewed by a psychometrician prior to being selected for a written test. 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, signaling, and lift directing experts to determine if, for example, credit should be given for more than one answer. After these issues are resolved, the test is scored.

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

The CMRS/LD 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, signaler, and lift director 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 CICC worked closely with test development psychometricians to guide all CMRS/LD 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, signaling, and lift directing tasks, standardizing test conditions for the written exam administrations, establishing equivalence across test forms, and creating secure and consistent test administration procedures.

In addition to the skills indicated by holding the Certified Rigger and Signaler (CRS) designation, the Certified Master Rigger and Signaler/Lift Director designation are skilled in many areas including the following:

1. Develops and implements Lift Plans, including evaluating aspects of critical hoisting operations and determining the correct equipment, materials, personnel, personnel placement, and diagram development;
2. Determines proper hitch configurations for asymmetrical hoisting operations;
3. Takes into account and corrects for the effect of the load on the equipment prior to hoisting operations;
4. Takes ground conditions and weather into account when performing hoisting operations;
5. Anticipates and compensates for variations in D/d ratios as affected by wire construction or hardware configurations;
6. Handles complications to the rigging plan during hoisting operations;
7. Is aware that stresses on slings and rigging hardware will change when transferring weight between hoisting devices;
8. Recognizes when equipment, materials, ground conditions, and weather pose potential hazards and explaining why certain safety precautions should be taken; and
9. Performs basic calculations to determine the stresses caused by changing sling angles when hoisting asymmetrical loads.

The CMRS/LD program is more advanced than and supersedes the Certified Rigger and

Signaler (CRS) program. Certification holders may state that they are a Certified Master Rigger and Signaler/Lift Director and may use the CMRS/LD designation to market credentials on business cards, resumes, etc.

Additionally, each CMRS/LD 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 CMRS/LD test.

Certification Eligibility and Approval

To become a CMRS/LD, a candidate must be a UBC member and must successfully complete a knowledge-based written examination. By passing this examination, a candidate demonstrates competency in the knowledge and skills required to perform safely and effectively as a CMRS/LD.

Prerequisites

In order to qualify to sit for the CMRS/LD test, a candidate must meet the following prerequisites:

- Certified Rigger and Signaler (CRS) designation with an overall scaled score of 675 or higher on the written examination (85% on older tests). Contact your local center for verification of eligibility;
- At least five years of documented rigging experience; and

- Complete at least 36 hours of training designed to address standards for Master Rigger and Signaler/Lift Director, including ANSI, ASME, and OSHA standards.

The training must be designed to further enhance the knowledge and skills of an accomplished Certified Rigger and Signaler. In general, the training should cover important safety precautions and practices as they apply to advanced rigging activities, the scope of practice, and the current state of knowledge and skills required in rigging, signaling, planning, and directing of lifts for both assembly and disassembly in the skilled trades industry. It should focus on the areas of practice that are required of a Master Rigger and Signaler/Lift Director as well as on the understanding and application of critical regulatory requirements. Specifically, the training should include coverage of planning for load handling activities, lift plans, critical lifts, job safety analysis, assembly and disassembly of cranes and equipment. The training must also cover ANSI/OSHA Safety Requirements and regulations and ASME codes and standards (e.g., Hooks, Below the Hook Rigging Devices, Personnel Lifting Systems, Rigging Hardware, Slings).

It is the candidate's responsibility to find training that fulfills the requirements of the CMRS/LD 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

Candidates for the CMRS/LD program must be sponsored by a UBC Signatory Contractor or UBC Local Union and hold a position of authority to fulfill Master Rigger and Signaler/Lift Director responsibilities. Contact your local center for information on how to apply for the program and a schedule of the next CMRS/LD test 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 CMRS/LD program. Contact the nearest UBC local union to join.

Location of Written Exam

All written exams for the CMRS/LD program are offered at the CICC headquarters in Las Vegas, Nevada.

Materials to Bring/Not to Bring

When reporting for the exam, candidates must present one (1) form of current (i.e., not expired) 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 be valid and it must include the candidate's date of birth. Candidates without proper ID will not be allowed to test.

Candidates must be registered and admitted to the test room before the door is closed. Once the door is closed, the candidate will not be allowed to test.

Candidates cannot have access to electronic equipment in the testing room other than a standard calculator. Candidates are permitted to use their own calculators provided they do not have a QWERTY keyboard, camera, or access to the internet. If a candidate does not have one of these required calculators, a spare calculator will be provided for the candidate to use during testing.

These items are **not** allowed in the exam room:

- Food or drink
- Cell phones
- Any type of camera
- Laptop computers
- Notebooks, tablets
- Smart watches, Fitbits
- Anything that could access the Internet or take pictures
- Books, paper notebooks, loose paper
- Pens, markers, highlighters
- Hats, knitted caps, scarves, jacket hoods, shirt hoods
- Sunglasses

Restricted items brought into the exam room will need to be placed under the candidate's chair and not touched or accessed until the exam is completed and all exam materials have been turned in.

Unwrapped cough drops, throat lozenges, or hard candy will be permitted in the testing room only after visual inspection by the proctor. These items are to be stored in a sealed clear plastic bag no larger than one quart in size. Once the candidate is seated, the bag must remain on top of the table at all times.

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

Certification Renewal

The CMRS/LD certification is valid for four years from the last day of the month that the certification was granted. To renew the certification, a CMRS/LD must document 36 hours of additional training and pass the written 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.

CMRS/LD Examination Content

Written Examination

Candidates are allotted four hours to complete the written examination. The content of the examination follows the plan (detailed below), which was derived from an in-depth practice analysis validation effort that was completed in 2017.

The written examination has a total of 90 questions, which includes 10 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 Procedures	
Hitch Configuration	15
Application	30
Rigging Safety	
Critical Hoist/Lift Plans	16
Site Awareness/ Personnel Safety	15
Load Stability	4
TOTAL	80

Written 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 CMRS/LD test were written to target the required information listed in the ANSI A10.42 -2000 (R2010), ASME B30, and OSHA 29 CFR 1926 Section CC Standards to ensure that test is consistent with the published purpose of the certification program. The examination has been designed based on the input of expert riggers, signalers, and lift directors regarding the most important parts of the profession. There are specific links from the approved references, including the ANSI, ASME, and OSHA standards, and the job analytic data to the written examination.

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. ANSI 2010
7. ASME B30.20—2010 Below the Hook Rigging Devices
8. ASME B30.26—2010 Rigging Hardware
9. ASME B30.23—2011 Personnel Lifting Systems
10. ASME B30.9—2009 Slings
11. ASME B30.10—2010 Hooks

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 necessary to ensure the examinations contain high-caliber, updated items, but it also ensures a sufficient number of new items to avoid overexposure or being 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 CMRS/LD 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 CICC 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 CMRS/LD. 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 between the test forms are calculated and then the pass point of the new examination form is adjusted, so the same benchmark standard is 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 a new form of the test is more difficult relative to previous examinations, the score needed to pass the exam will be lowered to equal the benchmark standard. On the other hand, if a new test form turns out to be easier, the score needed 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.

Security of Certification Records

All CMRS/LD 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 CMRS/LD recipients.

Scheduling Procedures

All CMRS/LD examinations are offered at the UBC International Training Center in Las Vegas, Nevada. Registration is handled by UBC affiliated local programs. Contact your local center for information on how to register for the next test administration date.

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 CMRS/LD 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 indicated on the request form.

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

Re-taking the Certification Examination

If a candidate does not pass the written test, he/she must document 36 hours of additional training and may then retake the test after 30 days from the date of the failed test. The training must include the scope of practice and current state of knowledge and skills required in rigging, signaling, planning, and directing of lifts for assembly or disassembly in the construction industry. The candidate does not need to submit a new letter of sponsorship nor resubmit proof of 5 years rigging experience (see the Prerequisites section for more information).

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 picture on the Test Sign-In Sheet does not adequately match the picture presented by candidate on ID,
 - Candidate’s ID is expired, and/or
 - Candidate’s information on the Test Sign-In Sheet (candidate’s name, photo, 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 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 certification 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 <http://www.ubccertifications.org/Appeals.html> or by contacting the CICC at CICC@carpenters.org or 212 Carpenters Union Way, Las Vegas, NV 89119-4218.

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 CICC via ground mail to 212 Carpenters Union Way, Las Vegas, NV 89119-4218. 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 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 that 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 email to CICC@carpenters.org or via ground mail to

212 Carpenters Union Way, Las Vegas, NV
89119-4218.

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.