



## PROGRAM DESCRIPTION

Council-certified  
Microbial Consultant

# CMC

The American Council for Accredited Certification offers the Council-certified Microbial Consultant (CMC) to individuals whose training and field experience in applied building sciences and microbial issues warrant professional recognition. Additionally, ACAC offers the CMC examination to certain license applicants in states where it is required by law.

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### Objectives of the CMC Program:

1. To raise the standards of those engaged in indoor air quality testing, sampling, monitoring and consulting.
  2. To identify persons with acceptable knowledge of indoor air quality and the standards and regulations affecting Council-certified Microbial Consultants.
  3. To award special recognition to those microbial remediators who have demonstrated verifiable field experience.
  4. To qualify applicants for certain state licenses.
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### Eligibility:

Applicants for the CMC certification must demonstrate academic- and experience-related eligibility.

- Applicants must possess one of the following combinations of eight (8) years education and relevant field experience:
  - A 4-year post-secondary degree or its equivalent (30 credit hours) in microbiology, engineering, science, architecture, industrial hygiene or related field of science with a minimum of four (4) years of documented field experience in microbial sampling.
  - A 2-year post-secondary degree or its equivalent (15 credit hours) in microbiology, engineering, science, architecture, industrial hygiene or related field of science with at least six (6) years documented experience in microbial sampling.
  - No degree with at least eight (8) years of consulting experience in microbial sampling. (high school diploma or GED required.)
- Applicants must demonstrate experience in designing and conducting microbial sampling regimens. Experience should come from the following three areas:
  - Building Sciences
  - Microbiology
  - Microbial Risk Analysis

ACAC certification candidates document education by submitting transcripts with the application form. Candidates document field experience by submitting four project sheets (included in the application packet).

Applicants for state licenses where the CMC examination is required must meet the eligibility requirements published by each state.

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### The Required Body of Knowledge:

The effective practice of microbial consulting requires detailed knowledge of a variety of subjects, from microbiology and microbial risk analysis to the various disciplines of the building sciences. For certification

purposes, the candidate for the CMC designation must demonstrate familiarity with the basic reference materials relating to microbial sampling, such as those summarized in the following list.

1. ACGIH, *Bioaerosols: Assessment and Control* (Cincinnati: ACGIH, 1999)
2. AIHA, *Field Guide for the Determination of Biological Contaminants*, 2nd ed. (Fairfax, VA: AIHA, 2005)
3. IICRC, *Standard S500-2006: Standard and Reference Guide for Professional Water Damage Restoration*, 3<sup>rd</sup> edition (Vancouver, WA: IICRC, 2006) **OR** ANSI/IICRC, S500-2015, *Standard and Reference Guide for Professional Water Damage Restoration*, 4<sup>th</sup> edition (Las Vegas: IICRC, 2015).
4. IICRC, *Standard S520: Standard and Reference Guide for Professional Mold Remediation*, 2<sup>nd</sup> edition (Vancouver, WA: IICRC, 2008) **OR** ANSI/IICRC S520-2015, *Standard for Professional Mold Remediation*, 3<sup>rd</sup> edition (Las Vegas: IICRC, 2015) and IICRC R520-2015, *Reference Guide for Professional Mold Remediation*, 3<sup>rd</sup> edition (Las Vegas: IICRC, 2015).
5. NIOSH *Respirator Selection Logic* (2004)

The Council-certified Microbial Consultant (CMC) examination addresses the following domains of knowledge:

### **Morphology and ecology of specific biological agents**

- Bacteria
- Fungi
- Amebae
- Viruses
- Dust Mites
- Endotoxins and other Bacterial cell-wall components
- Fungal Toxins
- $\beta$ -(1-3)-D-Glucans
- Antigens
- mVOCs

### **Health effects and risks associated with bioaerosol exposure**

#### **Principles of microbial investigations**

- Guidelines, regulations and standards touching microbial investigations
- Pathways and driving forces for microbial contaminants in the built environment
- The role of HVAC systems in perpetuating or controlling microbial issues
- Construction techniques, building materials and furnishings relevant to microbial investigation
- Techniques for visual investigation of the indoor environment
- Proper use and limitations of monitoring equipment in microbial investigations

#### **Principles of microbial sampling, including the design and execution of microbial sampling regimens**

- The ability to design appropriate sampling strategies
- An understanding of current sampling technologies and their proper use, including instrument calibration and limitations
- The ability to follow effective protocols during the execution of a sampling regimen
- The ability to analyze sampling data accurately
- The ability to evaluate and interpret sampling data responsibly

#### **Principles of mitigation and remediation of microbial issues**

- Project documentation
- Personal protective equipment

- Containment engineering and construction
  - Remediation techniques
  - Proper use and limitations of chemicals in microbial remediation
  - Post remediation verification
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### **The ACAC Certification Process**

1. ACAC certification should not be confused with state licensing. State license candidates should read the following section, "The State Licensing Process."
  2. ACAC certification candidates complete and forward the notarized application form, employer affidavits, project sheets and a copy of diploma or transcripts.
  3. ACAC certification candidates pass the closed-book examination. If the examination is not successfully passed, a re-examination fee is required before retaking the examination.
  4. ACAC certification candidates have up to 90 days from the date of application to complete the application process. Applications left incomplete after 90 days will be considered null and void.
  5. ACAC certification candidates wait for the awarding of the certification. The Certification Board meets approximately every four (4) weeks to review the examination results and supporting materials before voting to award the certification.
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### **The State Licensing Process**

1. State licensing should not be confused with ACAC certification. ACAC certification candidates should read the previous section, "The ACAC Certification Process."
2. State license applicants complete and forward the notarized application form to the ACAC office.
3. ACAC does not require state license applicants to provide documentation of education or field experience in order to sit for the CMC examination. State licensing agencies may require such documentation as part of the license application process.
4. State license applicants pass the closed book examination. ACAC reports exam scores directly to the appropriate state licensing agencies.
5. State license applicants follow individual state guidelines for completion of the license application.

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**The CMC Examination:**

1. The applicant must complete a 3-hour, closed-book, written examination. The examination questions are based on the listed core skills and required body of knowledge. For an updated list of exam topics and item references to use in test preparation, visit [www.acac.org](http://www.acac.org).
2. The examination is closed-book! It is strongly recommended that candidates read the reference materials listed above before taking the examination.
3. There are 120 questions on the examination. Each question is multiple-choice with at least four (4) possible answers. Exam items are drawn from the required body of knowledge according to the following blueprint:

<b>Domain/Cognitive Category</b>	<b>Knowledge</b>	<b>Comprehension</b>	<b>Application</b>	<b>Total # Items</b>	<b>Percentage</b>
<b>1. Biological Agents</b>	12	10	4	26	22
<b>2. Health Effects and Risks of Exposure</b>	8	7	3	18	15
<b>3. Microbial Investigations</b>	11	10	4	25	21
<b>4. Microbial Sampling</b>	12	10	3	25	21
<b>5. Mitigation and Remediation</b>	12	10	4	26	22
<b>Total # Items</b>	<b>55</b>	<b>47</b>	<b>18</b>	<b>120</b>	
<b>Percentage</b>	<b>46</b>	<b>39</b>	<b>15</b>		<b>100</b>

4. **Passing score:** The passing score for the CMC examination is set by the CMC certification board using the Modified Angoff Method. A score of 75% must be achieved to pass this examination.
  5. The examination is delivered electronically at an authorized testing center operated by Kryterion, Inc. There are no paper exams. Once a complete application packet is on file in the Council office, the candidate may register for the examination by calling the office at (888) 808-8381.
  6. Candidates should arrive 30 minutes before the testing appointment.
  7. Candidates must present two forms of government-issued identification at the testing center, one of which must be picture ID.
  8. Candidates must follow proctor instructions with regard to conduct, behavior, and the use of personal belongings and test materials.
  9. Candidates failing to abide by these rules will not be permitted to sit for the exam, and a re-examination fee will be required.
  10. All examinations contain the same questions; however, the examination questions are presented to each candidate in random order and the examination answers are presented to the candidate in random order.
  11. Examinations are graded electronically at the testing facility, and scores are available to candidates immediately. An email is sent to the candidate's email address confirming test results. In the case of state license applicants, exam scores are also reported directly to the appropriate state licensing agency.
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**Fees:**

All fees are listed on the **ACAC website**. Corporate purchase orders, checks, Visa, MasterCard and American Express are accepted.

**Certification Fee for a two-year ACAC certification:**

- Certification fees include a non-refundable processing fee.

**Examination Fee:**

- Examination and certification fees are required prior to taking examinations.

**Re-certification Fee:**

- Re-certification is for a two-year period and requires documentation of continuing education. Re-certification fees include a non-refundable processing fee.

**Re-examination Fees:**

- For those who failed a previous exam.

**Penalties for late re-certification:**

- May be waived in case of documented active military duty or medical issues.
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**The Certifying Body:**

1. The American Council for Accredited Certification is the certifying body for this certification program.
2. All decisions regarding application materials, examinations and the awarding of certifications are made by the CMC Certification Board, which functions as part of the ACAC.
3. The certifying body's responsibility to applicants is to provide a credible certification. Operation of the certification program is closely monitored to ensure that reference materials remain current

with the industry guidelines and standards and the eligibility requirements for certification are at appropriate levels. Examination questions are developed by certified CMRs who are currently active in the field of microbial consulting. Pass/fail scores are set by the CMC Certification Board at the ACAC annual meeting using the modified Angoff method. The Board authorizes an annual statistical review of examination item performance and test reliability and updates the examination to reflect the latest changes in our rapidly evolving field.

4. Certification Board members are required to abstain from voting on any applicant's completed file that may present a conflict of interest, either personally or professionally.

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### **Re-certification and Reinstatement**

ACAC certifications are current for two years from the date of issue. The certificate holder must accumulate forty (40) Re-certification Credits (RCs) prior to the certificate's expiration date. Each RC represents one (1) hour of continuing education or professional development. The certificate holder may accumulate the required hours at any time during the two-year certification period. An updated list of typical recertification activities is available on the Council website at [www.acac.org](http://www.acac.org).

Council-certified Microbial Consultants who do not acquire sufficient CMC Re-certification Credits by their recertification date will be notified in writing to cease using the CMC designation. They will be listed as expired on the Council website and will no longer be listed as a CMC in any ACAC publication until such time as they resubmit to the certification process and successfully meet the current criteria for certification. Appropriate fees will apply.

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### **Due Process Procedures:**

1. The CMC Certification Board is responsible for all facets of the certification program, including the review and evaluation of applications, the development and administration of examinations, the granting and reissuing of certificates and the adjudication of complaints against certificants.
2. Suspensions: If a Council-certified Microbial Consultant does not accumulate the required re-certification credits, certification shall terminate unless, in the judgment of the Certification Board, extenuating circumstances exist and the deficiency can be readily overcome. Examples of extenuating circumstances include documentation of active military service or documentation of a serious medical condition.
3. Complaints: If a Council-certified Microbial Consultant fails to abide by the ACAC Code of Conduct or is formally accused of gross negligence in the performance of his or her professional duties, the Certification Board may vote to refuse re-certification.
4. Appeals: Any holder of a valid Council certification or applicant for such a certification may appeal the decisions of the Certification Board.
5. Complaints or appeals shall be made in writing via certified mail to the Certification Administrator.
6. In the case of complaints, the Certification Administrator shall forward the complaint to the accused certificant and allow him or her ample time to respond.
7. The Certification Administrator, at the direction of the Executive Committee, may forward complaints or appeals to the appropriate Certification Board.
8. The Certification Board shall rule on all complaints or appeals by unanimous vote.
9. Complaints or appeals may be continued in writing via certified mail to the National Advisory Board.
10. The National Advisory Board shall be the final court of appeal and will rule on complaints or appeals by unanimous vote.
11. In resolving complaints or appeals, ACAC may rule only on its own decisions to grant or deny certification and recertification.

## **Emeritus (Retired) Status**

1. Retired Council-certified Microbial Consultants may be granted emeritus status in their designation as long as they are retired from professional practice as a CMC. Such persons will be granted the title "Emeritus".
2. Re-certification Fees for Emeritus (Retired) Status: **\$100** USD for each two-year certification.
3. Continuing education is not required.
4. To return to active status, emeritus certificants must notify the Council in writing and pay a fee for a two-year active certification. At the end of the two-year period, all normal re-certification policies will apply.

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## **Use of the CMC Designation:**

1. A Council-certified Microbial Consultant (CMC) may use the designation with his/her name on organization letterheads, business cards and all forms of address. When using the CMC designation, we encourage the spelling out of the designation fully in smaller print immediately below the signature block, as in the following example:  

**John Doe, CMC**  
Council-certified Microbial Consultant  
Board-awarded by the American Council for Accredited Certification
2. Certification is for individuals only. The CMC designation may not be used to imply that an organization or firm is certified.
3. The CMC designation may NOT be used by individuals who pass the CMC examination in order to obtain a state license, unless those individuals also complete the ACAC certification process as described in this booklet.

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## **ACAC Code of Conduct:**

### ▪ **Objective**

The objective of this code is to provide guidance for appropriate conduct for the certificants of the American Council for Accredited Certification as they engage in their individual professions.

### ▪ **Rules of Conduct**

Certificants of the American Council for Accredited Certification shall:

- Practice their respective professions following accepted industry standards and guidelines.
- Exercise caution not to misrepresent their credentials, training or experience in the course of their professional activities.
- Deal responsibly in advising parties regarding potential damage to property and/or risk to health.
- Maintain confidentiality concerning both personal and business information gathered in the performance of their professions, except in the case of overriding legal and/or health concerns.
- Avoid instances where conflict of interest or compromise of professional judgment may occur.
- Act with integrity to uphold the standards of their profession and of the Council and avoid any conduct that could adversely reflect on the Council and its certificants.

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We reserve the right to change/update our certification examination material, eligibility requirements and re-certification requirements at anytime we deem necessary to maintain the professional integrity and validity of our certification.

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