



Certified Commissioning Authority (CxA) Candidate Handbook



AABC Commissioning Group

2401 Pennsylvania Ave., Suite 330

Washington, DC 20037

Phone 202.737.7775 • Fax 202.315.0285

certification@commissioning.org

www.commissioning.org

Table of Contents

Introduction	2
Mission Statement	2
Objective	2
Certified Commissioning Authority (CxA) Scope	2
Statement of Impartiality	3
Better Buildings Workforce Guidelines (BBWG) Certification Scheme	4
ACG Terminology for Certification	4
Section 1: Applying for Certification	6
Eligibility Criteria	6
Application Instructions and Requirements	8
CxA Examination	9
Exam Scheduling	9
Section 2: Preparing for the Examination	11
Exam Content Outline	11
CxA Exam Reference List	12
ACG Education & Training	13
CxA Acronym List	13
Section 3: Taking the CxA Exam	14
What to Expect on Exam Day.....	14
Taking the Exam	14
Accommodations for Candidates with Disabilities	16
Accommodation Requests	16
Section 4: After the Exam	17
Exam Results	17
Exam Appeals.....	17
Certificates	17
Section 5: Ethics Complaints/Disciplinary Actions	18
Complaints	18
Complaint Handling and Disciplinary Measures	18
Section 6: Maintaining Your Certification	20
Independence Verification.....	20
Recertification Requirements	21
Annual Certification Fee	23
Section 7: CxA Code of Ethics	25
Section 8: Other Policies & Procedures	27
Nondiscrimination.....	27
Non-Disclosure Agreement and General Terms of Use	27
Confidential Applicant & Candidate Information	27
Verification.....	27
Use of Certification Mark.....	28
Appeals/Requests for Reconsideration	28
Appendix A: Examination Development	30

Introduction

Mission Statement

Established in 2005, the AABC Commissioning Group (ACG) is a non-profit association dedicated to the advancement of the building commissioning industry. ACG strives to promote a better understanding of the commissioning process through education, training and certification.

ACG's Certified Commissioning Authority (CxA) certification program is offered to independent building commissioning professionals to recognize competence and promote continual professional development. This program is operated under the authority of the ACG Certification Council (the Council).

Objective

The Council's objective is to operate the CxA certification program in conformance with ISO/IEC 17024: 2012(E), *Conformity assessment – General requirements for bodies operating certification of persons*.

ACG is committed to operating the CxA program using a scheme that is consistent with the guidelines for Building Commissioning Professionals, as sponsored and recognized by the U.S. Department of Energy.

Certified Commissioning Authority (CxA) Scope

The CxA program serves the industry by recognizing independent building commissioning professionals who demonstrate the technical, management, and communications skills required for competent performance. The scope of the CxA program was developed by the U.S. Department of Energy with broad input from industry, and then adopted by the Council at its sole discretion. Changes to the CxA program scope require approval by the Council.

ACG's CxA certification is available to industry professionals who lead, plan, coordinate and manage commissioning teams to implement commissioning processes in new and existing buildings. CxA certificants:

- Manage commissioning projects
- Prepare commissioning documentation
- Conduct commissioning activities
- Coordinate operator training activities
- Complete warranty phase activities
- Conduct existing building commissioning
- Conduct on-going commissioning
- Are independent and work on behalf of building owners

The scope of the CxA program is consistent with the Building Commissioning Professional consensus qualifications guidelines sponsored by the U.S. Department of Energy, and shall be re-evaluated every three years and revised if warranted due to changes in industry standards or technology.

Statement of Impartiality

ACG understands the importance of impartiality in carrying out its CxA certification activities, manages conflicts of interest, and acts to ensure the objectivity of its CxA certification activities.

ACG is committed to acting impartially in relation to its applicants, candidates and certificants. CxA certification decisions are made in accordance with policies and procedures established under the authority of the Council. Policies and procedures affecting applicants, candidates and CxA certificants are made public and fairly and accurately convey information about the CxA certification program.

ACG understands threats to impartiality that include, but are not limited to, self-interest, activities from related bodies, relationships of personnel, financial interests, favoritism, conflict of interest, familiarity, and intimidation. ACG periodically conducts a threat analysis to determine the potential, both real and perceived, of an individual or an organization to influence certification.

The eligibility requirements have been established to recognize individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent building commissioning services. Applicants must demonstrate proficiency in commissioning by passing the CxA examination, as specified and administered by the Council. Eligibility requirements for the CxA Certification Program can be found in the CxA Candidate Handbook. To earn CxA certification, applicants must meet all of the eligibility requirements and pass the CxA certification examination.

Membership in ACG is not a requirement for any CxA certification applicant, candidate, or CxA certification holder. Discounts for certification application and exam fees are offered to ACG members in recognition of the financial support they provide, which enables the existence of the CxA certification program.

ACG serves the industry by providing education and training designed to help industry professionals understand the job of a commissioning authority. However, completion of ACG's education or training is not a prerequisite or component of the CxA certification program. Candidates are free to select any training they wish, and completion of ACG's training will not provide any advantage over completion of any other quality training program.

Better Buildings Workforce Guidelines (BBWG) Certification Scheme

The ACG CxA certification program is based on the BBWG certification scheme developed by the National Institute of Building Sciences (NIBS) Commercial Workforce Credentialing Council (CWCC). The CWCC was established to provide a forum and governing structure for the commercial buildings industry to develop guidelines for high quality workforce credentialing programs in a neutral, collaborative environment. The purpose of the BBWG Certification Scheme is to assist certification programs, workers, employers, building owners and managers, energy efficiency program administrators, and government officials, in developing and identifying a more consistent and comparable workforce in the energy-related job of building commissioning professional.

The BBWG effort was initiated and supported by the U.S. Department of Energy (DOE), but was industry-led by the National Institute of Buildings Sciences (the Institute), a Congressionally authorized 501(c)(3) non-profit organization whose mission is to support advances in building science and technology to improve the built environment. The Institute established the CWCC to govern the effort.

ACG Terminology for Certification

Following is a list of terms to facilitate a better understanding of this document.

Applicant: A person who has applied for certification, but has not yet been approved by to participate in the program or attempt the examination.

Candidate: A person who has been approved to take the CxA examination, but has not yet been certified.

Certificant: A person who has met all requirements and is currently certified.

Certificate: A document used by an organization that grants certification to indicate that the named person has met the requirements for certification.

Certification: The process by which an organization grants a time-limited recognition and use of a credential to an individual after verifying that he or she has met pre-determined and standardized criteria.

Certification Scheme: The combination of requirements, processes and activities used by an organization to determine that an individual is worthy of certification. (Certification scope, eligibility criteria, an examination, a code of ethics, application, and recertification are some of the elements of the CxA Certification Scheme.)

Competence: The ability to perform a job safely and effectively.

Grandfathering: The process by which individuals are granted certification without ever being required to meet a formal examination requirement.

Job Task Analysis (JTA) Study: A method used to identify the tasks associated with an occupation, as well as the knowledge, skills and abilities required to perform those tasks.

Psychometrician: A practitioner of psychometrics; an individual, typically holding a doctoral degree in measurement or psychology (such as educational or industrial/organizational psychology), who can understand, apply, and describe the science and technology of mental measurement.

Verification: Periodic monitoring conducted to verify certificants' continued compliance with ACG's independence requirement.

Customer Service

Applicants, candidates and certificants who have questions or feedback regarding the CxA certification program, or require assistance, are asked to contact the ACG Certification Department at (202) 737-7775, or via email at certification@commissioning.org.

Complaints about Certification Activities

Customer service inquiries and related complaints will be addressed informally by ACG certification staff and will not be subject to the formal process provided below.

Complaints about CxA certification activities may be submitted by an individual or entity to the Director of Accreditation and must include a written description of the complaint and the name and contact information of the person submitting the complaint. Please submit complaints via email (certification@commissioning.org) and enter "COMPLAINT" in the subject line. For assistance with a potential complaint, please contact the Director of Accreditation at (202) 737-7775 or via the above email address.

Complaints will be confirmed via email upon receipt, after which the Director of Accreditation will conduct a preliminary review to validate the complaint and determine if it is actionable. This determination may be made in conjunction with other certification personnel where warranted and will be completed within 21 business days from the date the complaint was received.

Valid and actionable complaints will be brought before upper management for resolution. The person filing the complaint will receive periodic progress reports, including the schedule to be followed in addressing the complaint. Complaints related to previous decisions will be addressed through the appropriate appeals process. The final decision will be communicated to the person filing the complaint at the time the decision is reached, including confirmation that the complaints-handling process has been completed.

Section 1: Applying for Certification

Eligibility Criteria

Applicants for CxA certification must submit the [CxA Application Form](#) with documentation that the following eligibility requirements have been met before being approved to attempt the CxA examination:

1. Education and Experience Requirements (including all documentation of education, and employer attestation of experience)
2. Mandatory Commissioning Project Requirements (including 3rd-party verification forms)
3. Verification of Independence
4. CxA Code of Ethics
5. A Completed Application (including all agreements and attestations/verifications)

1. Education and Experience Requirements

Minimum education and experience requirements, as outlined in the table below, must be met by all applicants:

Education	Experience
Licensed Architect or Professional Engineer	3 years' commissioning experience
Bachelor's Degree in building sciences* or equivalent military training/experience	5 years' commissioning experience
Associate/Technical/Vocational 2 year degree, non-building sciences bachelor's degree, or equivalent military training/experience	8 years' building industry experience**, with 5 of those years in commissioning experience
High school diploma or GED	10 years' building industry experience**, with 5 of those years in commissioning experience

* *Building science education is defined as mechanical engineering, electrical engineering, construction science, construction management, architecture and other majors/fields of study designed to train people for careers in the building industry.*

** *Building industry experience is defined as design, construction, testing and commissioning, code enforcement, and operations.*

2. Mandatory Commissioning Project Requirements

Candidates must have participated in a minimum of three commissioning projects. The projects may not include one and two family residential buildings. In the span of the projects, the applicant must have participated in at least six of the following activities:

- a. Development of an OPR/CFR
- b. Development of a commissioning plan
- c. Review of a design
- d. Perform field verification
- e. Oversee performance testing
- f. Correction of deficiencies
- g. Coordination of facility operator training
- h. Prepare commissioning report

NOTE: As of August 23, 2018, to meet ANSI requirements, all projects submitted to meet this application prerequisite must now include a [3rd-party verification form](#). The form must be signed by an individual capable of attesting to the candidate's roles and activities on each project submitted.

3. Verification of Independence

One of ACG's core principles is the importance of independent, third party commissioning. Therefore, ACG will verify that the applicant's current employer is an independent commissioning company.

ACG defines an independent commissioning company as one that provides independent commissioning services in accordance with the ACG Commissioning Guideline, and does not also provide services that present conflicts of interest, such as manufacturing of equipment or system components, installation or other contracting, construction, or other services that could affect the ability of the applicant to render an objective commissioning report.

Applicants, candidates and certificants who change employers during the CxA application and testing process, during the certification cycle, or at any point in the future, are required to notify the CxA Certification Department so independence can be re-verified.

4. CxA Code of Ethics

As a condition of earning and maintaining certification, applicants for CxA certification must agree to uphold and abide by the CxA Code of Ethics. The CxA Code of Ethics is documented in the CxA Candidate Handbook and is subject to modification. It is the responsibility of the applicant/candidate/certificant to secure a copy of the most up-to-date copy online.

5. Completed Application (including all agreements and attestations)

Submittal of a signed copy of the Certified Commissioning Authority (CxA) application form, including all provisions, agreements and attestations, is required for participation in the CxA certification program. Individuals who fail to submit a complete application and agree to all provisions of the program will be ineligible to participate.

Application Instructions and Requirements

Applicants will receive a confirmation email once the application has been received by the ACG Certification Department. ACG reserves the right to verify any and all information submitted on the application and to request further information or documentation from the applicant as needed.

Submitting the Application

The completed [CxA Application Form](#) and all supporting documentation must be submitted with payment in full. In addition to meeting and documenting the eligibility requirements outlined in **Section 1** of this handbook, applicants must also submit the following documents:

- Signed and dated CxA Code of Ethics and Confidentiality Agreement statements
- A copy of current certificates showing licenses and/or other certifications (if applicable), as well as objective documentation of education.
- Signed attestations by the current employer verifying that the presented work experience is accurate.
- [Completed 3rd party verification forms for each submitted project.](#)

The application may be submitted via email (certification@commissioning.org) or via paper copy to:

ACG Certification Department
2401 Pennsylvania Ave., Suite 330
Washington, DC 20036

Individuals who submit incomplete applications will be notified that their applications will not be processed until all required information has been received.

Membership

CxA certification is open to all individuals who provide independent commissioning services, regardless of ACG membership status. Membership in ACG, or any other organization, is **NOT** required for certification eligibility.

Application Fees

The application form must be submitted with the required fee, which is non-refundable.

Fee Schedule	
Individuals employed by an ACG Certified Member company, or by a company that has submitted a completed application but has not yet achieved membership status	\$250
All other individuals	\$2,500

Fees include application processing and one examination administration

Application Due Dates

Applications may be submitted at any time, but must be received by the ACG Certification Department at least 21 days in advance of the exam administration date. If requesting an accommodation ([see Accommodations for Candidates with Disabilities](#)) the application must be received by ACG at least 30 days in advance of testing.

CxA Candidate Status

Applicants who have been approved to take the CxA examination are considered CxA Candidates. CxA certification candidates have 18 months from their initial application date to pass the CxA exam.

Eligibility Appeals/Requests for Reconsideration

ACG is committed to a fair appeals process for any applicant, candidate, or certification holder with any adverse outcome of a decision. Applicants who have submitted a completed application and who are notified that they do not meet the eligibility requirements may appeal this decision in accordance with the process outlined in [Section 8: Other Policies & Procedures](#), under the policy for [Appeals/Requests for Reconsideration](#).

CxA Examination

Once all eligibility requirements have been met and approved via the application process, an applicant becomes a candidate, eligible to sit for the CxA certification examination. Successful completion of the certification examination is a requirement for CxA certification.

The competency requirements assessed in the exam are outlined in [Section 2: Preparing for the Exam](#).

Exam Scheduling

Examination Dates and Locations

The CxA examination is available on-demand at approximately 900 local testing centers (subject to change) through ACG's testing vendor. Candidates who want to take the CxA examination at a local testing center are encouraged to review the currently available test centers at <https://www.kryteriononline.com/locate-test-center>.

The CxA examination is also administered, periodically, at selected ACG events, such as in conjunction with the CxEnergy conference, a CxA training workshop, or during the annual AHR Expo. Interested candidates can refer to the ACG website for more information on these dates (www.commissioning.org).

Scheduling the Exam

CxA Applicants are required to indicate on the application form whether they intend to take the CxA exam at a local computer-based testing center, or in conjunction with an ACG event.

Exams at Testing Centers

Once authorized for testing, candidates who have indicated a preference to take the CxA examination at a computer-based testing center will receive a login and password that can be used to log in and self-schedule the exam through Webassessor, ACG's online registration system. Candidates will select the test center location, date, and time of exam administration appointment.

After scheduling the examination, the Candidate will receive an automated email confirming the appointment details (date, time and location of the test center). The message will include test center check-in and identification requirements as well as information regarding materials permitted in the test center. The confirmation email includes a unique Test Taker Authorization Code. Candidates must bring a copy of the confirmation message to the test center on the day of the exam.

Exams in Conjunction with ACG Events

Candidates who have indicated a preference to take the CxA examination in conjunction with an ACG event will receive a confirmation message from ACG confirming the date, time, and location of the examination. This communication will also include identification requirements the candidate must follow to confirm his/her identity when checking in to take the exam and the materials permitted in the testing room. (See [Section 3: Taking the CxA Exam.](#))

Cancellations and Rescheduling

There is a 72-hour cancellation policy. Cancellations may be made for exams scheduled at a local test center by following the instructions in the exam confirmation message. Cancellations for exams scheduled in conjunction at an ACG event may be made by contacting the ACG Certification Department, at (202) 737-7775.

Individuals who cancel at least 72 hours in advance may re-schedule by contacting the ACG Certification Department, at (202) 737-7775. Individuals who fail to cancel their exam at least 72 hours (three days) in advance shall forfeit the examination fee and will not be eligible to re-schedule the exam until new fees are paid.

Section 2: Preparing for the Examination

Exam Content Outline

The competency requirements assessed in the CxA exam are outlined below.

Duties and Tasks			Weight
A		Managing Commissioning Projects	18%
	1	Identify the scope of the project	
	2	Develop a commissioning team	
	3	Manage a commissioning budget	
	4	Identify commissioning deliverables	
	5	Participate in VE activities	
	6	Review project documents	
	7	Monitor the construction/project schedule	
	8	Participate in project meetings	
	9	Conduct commissioning meetings	
	10	Track deficiencies (issues log)	
	11	Facilitate risk assessment as it relates to commissioning activities	
	12	Assess pass/fail criteria for functional test results	
	13	Identify tasks for completion of commissioning processes	
B		Preparing Commissioning Documentation	19%
	1	Assist in developing the OPR/CFR	
	2	Create system/equipment list	
	3	Create commissioning process tracking metrics	
	4	Develop the commissioning plan	
	5	Develop commissioning schedules	
	6	Develop communications plans	
	7	Create commissioning specifications	
	8	Write system verification checklists	
	9	Create FPTs	
	10	Determine site visit protocols (logistics)	
	11	Develop issues logs	
	12	Document commissioning meetings	
	13	Write commissioning reports	
	14	Create systems manuals	
	15	Develop end of warranty review process	

C		Conducting Commissioning Activities	24%
	1	Plan commissioning construction activities	
	2	Monitor commissioning construction activities	
	3	Facilitate the completion of construction checklists	
	4	Facilitate the acceptance phase	
D		Managing Training Activities	4%
	1	Develop training plan	
	2	Facilitate training coordination meeting	
	3	Facilitate training activities	
	4	Conduct training follow-up activities	
E		Completing Warranty Phase Activities	5%
	1	Facilitate off-season testing	
	2	Troubleshoot facility issues	
	3	Measure energy performance	
	4	Facilitate end of warranty meeting	
F		Conducting Existing Building Commissioning	23%
	1	Determine scope of project	
	2	Conduct a building performance assessment	
	3	Prepare a CFR	
	4	Conduct a systems assessment	
	5	Conduct a site investigation	
	6	Recommend corrections and improvements	
	7	Oversee implementation of corrective measures	
	8	Conduct performance verifications	
G		Conducting On-Going Commissioning	7%
	1	Measure IEQ performance	
	2	Evaluate building systems performance	
	3	Review building operating plan	
	4	Review maintenance activities	
	5	Accommodate space/function changes	
	6	Implement corrective actions	
	7	Publish measurement and performance results to stakeholders	
Total			100%

CxA Exam Reference List

Following is a list of references that were used during development of the CxA certification examination. This list is made available to individuals who are pursuing CxA certification and

want to enhance their ability to apply concepts and analyze issues related to commissioning. This is not intended as a comprehensive list of all materials available to CxA candidates.

- ACG Commissioning Guideline, 2nd Edition
- ASHRAE Standard 202 – 2013: *Commissioning Process for Buildings and Systems*
- ASHRAE Guideline 0 – 2013: *The Commissioning Process*
- ASHRAE Guideline 1.1 – 2007: *HVAC&R Technical Requirements for the Commissioning Process*
- EMA Energy Management Guideline

ACG Education & Training

ACG offers a variety of education and training opportunities for individuals who are interested in professional development. Courses, workshops, webinars, and other such programs offered by ACG are not a requirement for CxA certification. The Council does not approve, recommend, or endorse any educational programs offered by any organization to prepare individuals for CxA certification examination.

CxA Acronym List

CxA candidates are expected to be familiar with the following list of acronyms:

ACG – AABC Commissioning Group	NFPA – National Fire Protection Association
AHU – air handling unit	NICET – National Institute for Certification in Engineering Technologies
BAS – building automation system	O&M – operation and maintenance
CFR – current facility requirements	OA – outside air
Cx - commissioning	OPR – owner’s project requirements
CxA – commissioning authority	PPE – personal protective equipment
DDC – direct digital controls	PM – preventative maintenance
EBCx – existing building commissioning	RFP – request for proposal
ECM – energy conservation measure	SVC – systems verification check
FIM – facility improvement measure	TAB – testing, adjusting, and balancing or test and balance
FPT – functional performance tests	VAV – variable air volume
HVAC – heating, ventilating and air conditioning	VFD – variable frequency drive
IAQ – indoor air quality	
LEED – Leadership in Energy and Environmental Design	
NETA – International Electrical Testing Association	

Section 3: Taking the CxA Exam

What to Expect on Exam Day

The exam consists of 120 multiple choice questions. A total of four hours is allowed for the exam, plus an additional 10 minutes for a break. (Candidates will not be allowed to leave the building or access personal items during the break.) The exam is closed book. No notes or study materials are permitted. Candidates should bring their own scientific, non-programmable calculator for use during the exam. (NOTE: mobile phones will NOT be allowed in the testing area.) Remember, candidates are required to bring a copy of the exam confirmation message to the test location on the day the exam is administered.

Exams scheduled at a testing center are computer-based. Exams scheduled at an ACG event are administered via paper and pencil.

Taking the Exam

Identification

Candidates are required to present a valid, government issued, photo identification to gain admission to the examination site. Acceptable identification is an unexpired government-issued photo ID with a signature (examples include driver's license, passport, citizenship card, age of majority card, and military ID card). The name on the ID must match the applicant name and the photo on the ID must validate the applicant's identity. Candidates without acceptable ID will not be admitted.

Examination Rules

The following rules will be enforced on exam day:

- Candidates must arrive at least 15 minutes prior to the scheduled start of the exam. Late arrivals may not be accommodated. Fees are not refunded for missed exam appointments.
- Candidates must present acceptable identification. Please see the "Identification" section above.
- No study materials, documents, books, or notes of any sort are to be taken into the examination area. No materials may be removed from the examination area.

- Candidates will be observed at all times during testing and should be aware that security procedures are in place and will be enforced.
- Other than non-programmable calculators, candidates may not bring any electronic devices, or any devices capable of recording, into the examination area. Phones, backpacks, purses, and other personal items are **NOT** permitted. Candidates are encouraged to leave these items at home when possible. Items brought to the test center will be placed in a secure area that is not accessible to the candidate during the examination session.
- No questions concerning the content of the examination may be asked in the examination area before, during, or after the exam. Proctors are not permitted to answer any questions about the content of the examination. Proctors may answer questions about processes (e.g. time limit), but cannot interpret or explain any information on the exam.
- All candidates are expected to answer the exam questions independently. There is to be no sharing of information, teamwork, or any other collaborative relationship with another candidate during the exam. Any violation of this policy is considered to be cheating. Any candidate engaged in this behavior may be subject to score cancellation and may not be allowed to sit for future administrations of the exam. See the disciplinary policy for additional information.
- No exam questions are to be discussed during or after the exam administration. Any infraction of these terms is considered to be a violation of your ethical responsibilities and subject to the disciplinary policy. It is also a violation of copyright law and exam security.
- Candidates should dress comfortably. While all test sites strive to ensure the exam is given in a room that is neither too hot nor too cold, candidates should be prepared with appropriate layered attire.
- No food or beverage is permitted in the examination area.
- Candidates may not communicate with anyone except the proctor during the exam.
- Candidates are not permitted to bring guests, including children, to the testing site.
- Candidates should complete their exams quietly, without disturbing others.

Any attempts to reproduce all or part of the CxA exam are prohibited. Such attempts may include, but are not limited to: removing materials from the testing room; aiding others by any means in reconstructing any portion of the exam; posting content on any discussion forum or website; and selling, distributing, receiving, or having unauthorized possession of any portion of the exam. Alleged copyright violations will be investigated and, if warranted, prosecuted to the fullest extent of the law. It should be noted that examination scores might become invalid in the event of this type of suspected breach. Permanent revocation of certification may occur if allegations are substantiated. See the Disciplinary Policy for further information.

Accommodations for Candidates with Disabilities

ACG will provide reasonable and appropriate accommodations in accordance with the Americans with Disabilities Act (ADA) for individuals with documented disabilities who request accommodation at least 30 days in advance of testing and demonstrate the need for accommodation.

ADA regulations define a person with a disability as someone with a physical or mental impairment that substantially limits one or more major life activities. Documentation is required to validate the type and severity of a disability to enable accommodations to be specifically matched with the identified functional limitation, in order to provide equal access to exam functions for all examinees.

Accommodation Requests

Candidates requesting an accommodation must submit a completed [Request for Accommodations form](#) and required supporting documentation with their exam application.

Accommodations requests must include documentation of need provided by an appropriate, licensed medical doctor, healthcare practitioner or other relevant professional on the professional's letterhead. The documentation must include the candidate's name and address as well as the diagnosis of the disability, history of previous accommodations, and specific request(s) for accommodations.

Once the request for an accommodation is received and reviewed, the applicant may be contacted to obtain additional information. ACG will determine the feasibility of any accommodation, including the specific accommodation requested by the applicant/participant, taking into account all relevant circumstances including, but not limited to: the nature of the documented disability; the nature of the accommodation; and the accommodation's impact on the certification examination. The applicant will receive correspondence via email regarding the accommodation decision.

Reasonable examination accommodations will be made at no extra charge to individuals with documented disabilities.

Accommodations Appeals

ACG is committed to a fair appeals process for any applicant, candidate, or certification holder with any adverse outcome of a decision. Applicants who have submitted a completed Request for Accommodation and who are notified that this request was denied may appeal this decision in accordance with the process outlined in **Section 8: Other Policies & Procedures**, under the policy for **Appeals/Requests for Reconsideration**.

Section 4: After the Exam

Exam Results

Exam results will be displayed at the conclusion of the exam session for Candidates who take the exam at a local test center. The score report will also be sent to the Candidate and to ACG via email. Candidates who take paper-based CxA exams at an ACG event will receive exam results via email approximately three weeks after the exam session. Candidates will also receive a score breakdown by content domain (see [Section 2: Preparing for the Exam](#)).

Understanding Your Exam Result

A criterion-referenced standard setting process is used to establish the passing point for the exam (see the “How the Exam was Developed” section of this Handbook).

You do not have to pass a certain number of content domain areas in order to pass the exam. Pass/fail status is determined by the total number of questions answered correctly. Candidates are provided feedback on their performance in each content area. For candidates who do not pass the exam, this information may be helpful in identifying areas for improvement before choosing to retake the exam.

Retaking the Exam

Candidates who do not pass the CxA examination may contact ACG staff to schedule another exam attempt within 18 months of the original application submission date.

The fee for each exam re-take is \$250. There is a mandatory 30-day waiting period between exam attempts. Further, unsuccessful candidates are not allowed to take the examination more than three (3) times in a 12-month period.

Exam Appeals

ACG is committed to a fair appeals process for any applicant, candidate, or certificant with any adverse outcome of a decision. Candidates who fail the exam and believe irregular testing conditions were a contributing factor may file an appeal (see [Section 8: Other Policies & Procedures, “Appeals/Requests for Reconsideration”](#)).

Certificates

Candidates who pass the CxA exam and are granted certification will receive a certificate including the certificant’s name, certificant’s employer, and the expiration date of the certification, along with other information.

If a CxA applicant changes employers at any point during the application and testing process or during the certification cycle, the individual is required to notify the ACG Certification Department and apply for current verification of independence.

Section 5: Ethics Complaints/Disciplinary Actions

In order to maintain and enhance the credibility of the CxA certification program, the Council has adopted these Administrative Procedures to allow clients and others to bring complaints concerning CxA program participants' ethical conduct to the Council.

The Code of Ethics (see [Section 7](#)) requires certified persons and those seeking certification to uphold the rules and requirements of the certification scheme that allow for the proper discharge of their responsibilities to those served, protect the integrity of the credential, and safeguard the public's trust. CxA program participants are required to agree to uphold and abide by the Code of Ethics by returning a signed copy as a condition of applying for initial certification and recertification. Implicit in this agreement is an obligation not only to comply with the mandates and requirements of all applicable laws and regulations, but to act in an ethical manner in all professional services and activities.

Certificants, candidates and applicants who fail to comply with the CxA Code of Ethics are subject to disciplinary procedures which may result in sanctions. The CxA Code of Ethics is not set forth to determine behaviors resulting in criminal or civil liability, nor are they intended to resolve matters of market competition or contractual disputes.

Complaints

Any individual may file a complaint against an applicant, candidate or certified person. All complaints must be submitted to ACG in writing, must allege a violation of the CxA Code of Ethics, and shall be investigated and adjudicated according to the rules and procedures of the Council.

Complaint Handling and Disciplinary Measures

Review of Complaints

Upon receipt of a complaint, the Council Chair, with assistance as needed, shall review the submitted complaint and any documentation and determine whether the allegations are valid and warrant review by the entire Council. Complaints determined to contain unreliable or insufficient information, to be frivolous, or to involve matters not covered by the CxA Code of Ethics (such as contractual disputes), may be dismissed by the Chair with written notice.

If a review is deemed warranted, written notice will be sent to the individual who is the subject of the complaint, who shall be given the opportunity to respond to the complaint. The individual submitting the complaint shall also receive notice that the complaint is being reviewed by the Council.

The Council, with assistance of staff as needed, shall conduct an investigation into the complaint and determine if any actual violations of the CxA Code of Ethics took place, and if any sanctions are warranted. The grounds for sanctions under these Procedures are as follows:

1. Conviction of a felony or other crime of moral turpitude under federal or state law in a matter related to the practice of, or qualifications for, building commissioning.
2. Gross negligence or willful misconduct in the performance of professional services, or other unethical or unprofessional conduct based on demonstrable and serious violations of the CxA Code of Ethics.
3. Fraud or misrepresentation in the application or maintenance of ACG membership, professional certification, or other professional recognition or credential.

The Chair exercises general supervision over all investigations. The timeline for the investigation and ruling shall be established by the Council.

Sanctions

If the Council determines that a violation of the CxA Code of Ethics or of other substantive requirements of the certification process by a CxA program participant has occurred, the Council may impose one or more sanctions. Sanctions shall be based on the severity of the violation, and may include, but not be limited to: cease and desist, written reprimand, written reprimand with remediation, censure, suspension, revocation, permanent revocation.

Appeal

Within 30 days from receipt of notice of a determination by the Council that a CxA program participant violated the CxA Code of Ethics, the affected individual may submit to the Council in writing a request for an appeal. No current members of the Council or of the ACG Board of Directors may serve on the Appeal Committee. Further, no one with any personal involvement or conflict of interest may serve on the Appeal Committee.

The Appeal Committee will conduct and complete the appeal within 90 days after receipt of the request for an appeal. The decision of the Appeal Committee will either affirm or overrule the determination of the Council, but will not address a sanction imposed by the Council. The decision of the Appeal Committee is binding upon the Council, the individual who is subject to the sanction(s), and all other persons.

Section 6: Maintaining Your Certification

ACG has instituted a recertification program to promote continued competence as the industry and the CxA's employment change over time. The following elements of this program have been established to define the standards of a CxA certificant in good standing:

1. Independence Verification
2. Base Recertification Requirements
3. Scope Expansion Measures (for individuals certified before April 2016)
4. Annual Certification Fee

Independence Verification

CxAs are required to maintain independence as a condition of CxA certification. This independence is verified as part of the certification application process, and it is also verified whenever a CxA changes employers.

Independence Definition

An independent company is defined by ACG as any company that provides independent commissioning services, and can demonstrate the ability to provide commissioning services in accordance with the ACG Commissioning Guideline. To qualify as independent, a firm must have no affiliation with manufacturers of equipment or system components, installing contractors, or any other person or company which could affect the ability of the CxA to render an objective commissioning report. An independent CxA is one who is employed by an independent company.

Change in Employers

If a CxA changes employers at any point during the certification cycle, the CxA is required to notify the ACG Certification Department and apply for re-verification of independence to ensure that the CxA remains "active and in good standing."

When the CxA's employer has changed, and independence is confirmed upon completion of the independence verification process, the CxA will be issued a new certificate with the name of the new employer included.

Failure to Complete Independence Verification

Individuals who lose their independence are considered INACTIVE and are ineligible to claim CxA certification until independence has been attained and verified by ACG, thereby reinstating ACTIVE status.

If the individual does not complete the verification process and pay the applicable fee(s) by December 31st of the year which recertification is due, a \$100 late fee may be assessed. If the independence verification process is still incomplete as of April 30th, the status is changed to WITHDRAWN and the certification is no longer valid.

All former certificants who wish to restore their certification to active status must verify independence and pay the applicable fees. In addition:

- 1) If more than six (6) months have elapsed since certification was withdrawn by the Council, a new application for CxA certification must be submitted.
- 2) If more than two (2) years have elapsed since certification was withdrawn by the Council, a new application for CxA certification must be submitted, and the former certificant must retake and pass the CxA examination.

Appeals – Independence Verification

ACG is committed to a fair appeals process for any individual with any adverse outcome of a decision. Individuals whose application for independence verification are denied may file an appeal to the Council (see **Section 8: Other Policies & Procedures, “Appeals/Requests for Reconsideration”**).

Base Recertification Requirements

As part of maintaining certification, CxAs are responsible for meeting the established requirements to recertify every three years.

Purpose and Rationale

ACG's goals for recertification are to ensure that CxA certificants remain current with best practices, broaden their understanding of the industry, and continue to be recognized as the leading providers of quality commissioning for new and existing buildings. Given the rate of change for the commissioning industry, including the standards and guidelines upon which it relies, the Council believes a three-year recertification cycle is appropriate.

Recertification Schedule

Beginning in 2016, CxA program participants will be required to recertify on a three-year recertification cycle. Individuals who were certified by June 30, 2016 (or earlier) must recertify by December 31, 2018 to remain certified in good standing.

During their initial certification cycle, newly certified CxAs follow a slightly different schedule. If certification is granted on or before June 30 of a given year, that year serves as the first year of the three year cycle, and the credential expires December 31st two years later. If the initial certification is earned on or after July 1 of a given year, then the certification expiration date is December 31st three years later.

Initial Certification Date	Recertification Due
Jan. – June of Year 1	Dec. 31 of Year 3 & every 3-years thereafter
July – Dec. of Year 1	Dec. 31 of Year 4 & every 3-years thereafter

EXAMPLE:

If an individual earns the CxA certification in May 2016, recertification is due by December 31, 2018. If the certification is earned in July 2016 (or later that year), the first recertification is due by December 31, 2019 to remain certified in good standing. After the initial three-year certification period, the certification will expire and require renewal following the normal three-year recertification cycle.

Base Recertification Requirements

To recertify, CxAs must meet all Recertification Requirements and submit a record of continuing education activities to demonstrate compliance with the requirements by the applicable due date. ACG has developed an online recertification portal <http://recertification.commissioning.org> to facilitate the reporting process.

To qualify for recertification, by the end of the three-year recertification cycle, a CxA must participate in at least one commissioning project and earn at least 50 total points – with at least 25 of those points coming from the Mandatory Continuing Education category. (See the Recertification Point Matrix in the CxA Candidate Handbook for details.) Recertification activities must be related to commissioning, or building sciences in general, to qualify.

CxAs must also agree to the Terms and Conditions for the CxA program, including the CxA Code of Ethics, as part of maintaining CxA certification. CxAs will be asked to update their agreement with these provisions as the Terms are revised from time to time, such as during recertification.

Audits

Recertification submittals will be randomly selected for audit. If selected for audit, the CxA must provide documentation of continuing education activities in order to recertify. NOTE: all recertification activities submitted after the due date are subject to audit.

Scope Expansion

The scope and content of the CxA certification program will change from time to time as industry standards and the role of commissioning authorities are updated. In fact, the scope of the CxA certification program was expanded in 2015 to include tasks associated with Existing Building Commissioning (EBCx) and Ongoing Commissioning (OCx). As a result, the CxA certification exam was updated to test new CxAs on this new material. Also, CxAs who were certified before the exam was updated will be required to undertake one of the approved scope expansion measures to demonstrate competence under the updated CxA scope.

Requirements for Those Earning CxA Certification Using the Original Exam (i.e., before April 2016)

Individuals certified before April 2016 (i.e., those certified using the original CxA examination) must meet the Base Recertification Requirements listed above, and:

1. Pass the new CxA examination by December 31, 2018;
2. OR, complete a special CxA Gap Session and the related quiz by December 31, 2018. This Session and Quiz, which address new topics that have been added to the CxA program, may be completed either in person or online.

Annual Certification Fee

An invoice for the annual certification fee will be sent to the employer of record in the fall of each year, payable by December 31st. It is the CxAs responsibility to coordinate payment with their employer of record to ensure that the fee is paid by the due date. If the CxA has changed employers, ACG must be notified by the CxA so independence can be verified and an invoice for the certification fee can be issued directly to the CxA. The annual certification fee is \$200 for individuals employed by a Certified Member company (or applicant for Certified Membership). (Volume discounts may be available in cases where 10 or more CxAs are employed by the same ACG member company.) The annual certification fee for all others is \$2,500.

Failure to Recertify and/or Pay Certification Fee

Failure to pay the annual certification fee by the December 31st due date may result in assessment of a \$100 late fee. If the fees remain unpaid as of April 30th, certification status will be WITHDRAWN.

In the years in which recertification is due, if the individual does not submit documentation and pay the applicable fees by the December 31st due date, a \$100 late fee may be assessed. There is a grace period for recertification, during which time the CxA's status will remain ACTIVE. However, if the recertification process is still incomplete as of April 30th, the individual's status is changed to WITHDRAWN and the certification is no longer valid.

Individuals who wish to restore their certification to ACTIVE status must meet all recertification requirements, provide all documentation, and pay all applicable fees. In addition:

- 1) If more than six (6) months have elapsed since certification was withdrawn by the Council, a new application for CxA certification must be submitted.
- 2) If more than two (2) years have elapsed since certification was withdrawn by the Council, a new application for CxA certification must be submitted, and the former certificant must retake and pass the CxA examination.

Recertification Appeals

ACG is committed to a fair appeals process for any applicant, candidate, or certificant with any adverse outcome of a decision. Individuals for whom recertification or reapplication are denied may file an appeal to the Council (see **Section 8: Other Policies & Procedures, "Appeals/Requests for Reconsideration"**).

Recertification Point Matrix

This table provides details regarding the ways Continuing Education points are earned

CATEGORY	POINTS / UNIT	NO. OF UNITS	POINTS EARNED
PART I – Cx PROJECT PARTICIPATION (MANDATORY)			
Cx Project Participation (Min. one project/three years)	YES/NO	-	-

PART II – CONTINUING EDUCATION (MANDATORY)	Must have ≥25 points from Part II		
Webinar Attendee (1 point/hour of attendance)	1		
Conference Session Attendee (1 point/hour of attendance)	1		
Workshop Attendee (1 point/hour of attendance)	1		
College Credit - traditional or online (10 points/credit)	10		
Training - traditional or online (1 point/hour of attendance)	1		
SUB-TOTAL: CONTINUING EDUCATION (MINIMUM 25 POINTS)			

PART III – OPTIONS CONTINUING PROFESSIONAL DEVELOPMENT	≤25 points eligible from Part III		
Commissioning Project Participation (10 points/non-residential project)	10		
Webinar Presenter - first presentation (2 points/hour)	2		
Webinar Presenter - subsequent presentation (1 point/hour)	1		
Conference Session Presenter - first presentation (2 points/hour)	2		
Conference Session Presenter – added presentations (1 pt./hour)	1		
Workshop Presentation - first presentation (2 points/hour)	2		
Workshop Presentation - subsequent presentation (1 point/hour)	1		
Training Presenter: traditional or online (2 points/hour)	2		
Training Presenter: subsequent traditional or online (1 point/hour)	1		
Certification Test Development (2 points/hour, up to 25 points)	2		
Regulatory Work (1 point/hour, up to 10 points)	1		
Retest (25 points)	25		
Peer-reviewed Publications/Articles (5 points/article, up to 10 pts.)	5		
SUB-TOTAL: ADDITIONAL OPTIONS (UP TO 25 POINTS)			

COMBINED TOTAL: MUST BE AT LEAST 50 POINTS, WITHIN RULES			
---	--	--	--

Section 7: CxA Code of Ethics

The Council established the CxA Code of Ethics to promote honesty and integrity among Certified Commissioning Authorities, as well as quality workmanship in accordance with industry standards. Violation of one or more tenets of the CxA Code of Ethics on the part of Applicants, Candidates and CxA certification holders may result in disciplinary procedures and sanctions, including: demands to cease and desist; written reprimand; written reprimand with remediation; censure; suspension, revocation, or permanent revocation of certification; and/or dismissal from committees of the Board of Directors and/or the Council.

Certification and Recertification applicants are required to uphold and abide by the tenets of the CxA Code of Ethics, as a condition for certification and recertification. Applicants, candidates, and CxA certification holders pledge to:

1. Exercise a reasonable industry standard of care in the performance of professional duties.
2. Perform professional duties with trust, integrity, and honesty.
3. Hold paramount the health and safety of the public in the performance of professional duties.
4. Work in a manner consistent with applicable laws and regulations; demonstrate integrity, honesty, and fairness in all activities; and strive for excellence in all matters of ethical conduct.
5. Act with integrity in any relationship that involves an employer or client and disclose fully, in writing, to an affected employer or client, any conflicts-of-interest resulting from business affiliations or personal interests.
6. Represent qualifications accurately and honestly.
7. Offer products and services only in areas where competence and expertise will satisfy the client and public need.
8. Comply with and uphold all policies, procedures, guidelines, and requirements of the ACG Certified Commissioning Authority program; use the designation as authorized and only in the approved manner.
9. Accept responsibility for maintaining the ACG Certified Commissioning Authority credential through recertification and continuously uphold the CxA Code of Ethics.
10. Voluntarily and immediately report to the ACG Certification Department any felony convictions or other legal dispositions that would constitute violations of this Code of Ethics that have not already been disclosed, regardless of when they occurred, and report any conditions that prohibit fulfillment of duties as set forth in the competency requirements.

By agreeing to and signing the CxA Code of Ethics statement, applicants, candidates, and CxA certification holders also acknowledge that the CxA certificate and marks are the property of

ACG and agree to return the certificate to ACG and discontinue use of the ACG Certified Commissioning Authority designation and related marks when required to do so.

Compliance

ACG requires adherence to the CxA Code of Ethics by all CxA certified individuals and requires individuals to return a signed copy of the CxA Code of Ethics to the ACG Certification Department as a condition of applying for initial certification and recertification.

Any individual may file a complaint against a certified person and complaints shall be fully investigated and adjudicated by the Council. All complaints must allege a violation of the CxA Code of Ethics and shall be investigated according to the rules and procedures of the Council which shall allow for due process.

See **Section 5** for further information.

Section 8: Other Policies & Procedures

Nondiscrimination

The Council does not discriminate in the participation in the CxA certification program and prohibits discrimination against its applicants, candidates, certification holders, employees, and volunteers on the bases of race, color, national origin, age, disability, sex, gender identity, religion, political beliefs, marital status, or sexual orientation.

Non-Disclosure Agreement and General Terms of Use

The CxA Certification Examination is confidential and proprietary. It is made available to the examinee solely for the purpose of assessing competency in the field of building commissioning. All candidates are expressly prohibited from recording, copying, disclosing, publishing, reproducing, or transmitting the examination, in whole or in part, in any form or by any means, verbal or written, electronic or mechanical, for any purpose, without the prior express written permission of the Council and the AABC Commissioning Group (ACG). Non-compliance may lead to the revocation of certification.

Confidential Applicant & Candidate Information

ACG is committed to protecting confidential and/or proprietary information related to applicants; candidates; certificants; and the examination development, maintenance, and administration process.

Information about applicants/candidates/certificants, their application status, and their examination results is considered confidential. Exam results will be released only to the individual candidate unless a signed release is provided. ACG will not disclose confidential applicant /certificant information unless authorized in writing by the individual, or as required by law. When release of confidential information is required by law, the individual will be notified unless prohibited by law.

Aggregate exam statistics (including the number of exam candidates, pass/fail rates, and total number of certificants) will be publicly available. Aggregate exam statistics, studies and reports concerning applicants/certificants will contain no information identifiable with any applicant, unless authorized in writing by the applicant/certificant.

Verification

The names of certified individuals are not considered confidential and may be published by ACG. The certification status of any individual may be verified by contacting ACG.

Use of Certification Mark

The certification mark and logo are the property of ACG. Permission to use the certification mark or logo is granted to CxA certificants at the discretion of the Council, for permissible uses only.

After receiving notification of certification, the CxA credential may be used only as long as certification remains valid and in good standing. Individuals may not use the CxA designation until they have received specific written notification that they have successfully completed all requirements for CxA certification, including passing the exam. Certificants must comply with all verification and recertification requirements to maintain use of the credential.

Certificants will receive a certificate that includes their name, company, credential awarded, expiration date, and other information. The certificate may only be displayed during the time period for which the credential is valid. Certificates remain the property of ACG and must be promptly returned upon request.

CxA marks and logos may be used only on business cards, stationery, letterhead, and similar documents on which the name of the individual certified is prominently displayed.

CxA marks and logos may not be used in any manner that could bring the CxA program, or ACG, into disrepute or in any way that may be considered misleading or unauthorized.

Use of the mark and logo by individuals who have not been granted and maintained the certification is expressly prohibited. Should any person continue use of the CxA marks or logos after notice of suspension or revocation, ACG shall seek full equitable and/or legal remedies through a court of competent jurisdiction.

Appeals/Requests for Reconsideration

ACG is committed to a fair appeals process for any applicant, candidate, or certificant with any adverse outcome of a decision. The Council's General Appeals process, listed in this section (below), is used for appeals of issues related to:

- Eligibility
- Requests for accommodation
- Exam administration irregularities
- Recertification
- Independence
- Other non-disciplinary issues

Applicants, candidates and certificants who are notified of an adverse outcome as listed above may appeal the decision by sending a written notice of the appeal to the ACG Director of Accreditation within 30 calendar days of the postmark date on the original letter, or delivery date on email correspondence, of adverse outcome. The appellant shall clearly set forth the reasons he or she believes the decision was improperly decided, including documentation to

support such claim. The ACG Director of Accreditation shall confirm receipt of the letter of appeal via email upon receipt and will provide periodic progress reports as the appeal is processed.

Appeals that cannot be resolved to the appellant's satisfaction will be forwarded by the ACG Director of Accreditation to an Appeals Committee established by the Council for review, along with any relevant information used in making the initial decision. The Appeals Committee shall establish a schedule, gather evidence in the case, and make a determination.

Once a decision is reached, the Director of Accreditation shall send the appellant a letter, via email, communicating the Appeals Committee's decision. The decision of the Appeals Committee will be final.

Appendix A: Examination Development

How the Exam Was Developed

The CxA exam was developed using the analyzed data and content outline generated from the National Institute of Building Sciences (NIBS) Commercial Workforce Credentialing Council (CWCC) Job Task Analysis for the Better Building Workforce Guidelines (BBWG) Building Commissioning Professional Certification Scheme.

Job Task Analysis

The CWCC followed national and international best practices for workforce credentialing in developing the scheme requirements, beginning with a job-task analysis study. The CWCC identified a volunteer committee of 10-15 experienced subject-matter-experts from across the industry to develop the Job Task Analysis (JTA) for Building Commissioning Professionals. This JTA was adopted by the Council as the basis for the CxA Certification program.

The JTA outlines the key duties, tasks, knowledge, skills, and attitudes necessary to perform the job at a high level of competence and formed the examination blueprint upon which to base the certification assessments. The National Renewable Energy Laboratory (NREL) facilitated the JTA sessions, using professional psychometricians from Professional Testing, Inc., a company specializing in developing high-quality certification programs. The CWCC then validated the tasks and knowledge areas with input from industry stakeholders and practitioners via an on-line survey. The original committee of 10-15 subject matter experts then reconvened to review industry feedback and produce the final JTA documents, which form the foundation of the certification scheme.

The JTA Reports were finalized in December 2014 and approved in March 2015.

Certification Scheme Development

Following approval of the JTA document, the CWCC convened a new committee of subject matter experts from across the commissioning industry. This committee was comprised of some of the original participants in the JTA studies and some new subject matter experts, to develop the remaining scheme requirements.

The competency requirements as set forth in the certification scheme were done so in accordance with the accreditation requirements of ISO/IEC 17024 (Requirement 8, Certification Schemes). The certification scheme identifies the components of a certification program, including: the scope of certification; job and task description; required competence; abilities (when applicable); prerequisites, and code of ethics, as agreed upon by experienced industry subject matter experts through a deliberative process.

Together, the JTA Report and the certification scheme comprise the content of the voluntary, industry-developed, and industry and government-recognized Better Buildings Workforce Guidelines. The advantage to ACG, its members and certificants is that the resulting scheme meets the requirements of ISO/IEC 17024, consistent with the new consensus qualifications guidelines for Building Commissioning Professionals.

The Certification Council chose to use the certification scheme as the basis for updates to the CxA certification program. Once the transition process is completed, the CxA exam and other elements of the program will be aligned with industry and government-recognized guidelines for workforce competency.

- The CxA examination was updated to align with the BBWG content outline
- The CxA program Other elements of the certification scheme, including education and experience prerequisites, have been aligned with the BBWG
- The CxA Code of Ethics is based on the BBWG
- The CxA recertification program is also aligned with the BBWG

Examination Development

A diverse committee of 11 subject matter experts (SMEs) was assembled to work with ACG Certification staff and Alpine Testing Solutions, a firm that specializes in development of high quality certification exams. The committee met for the first time in August 2015 to receive instruction on writing quality questions (i.e., test questions) and develop new questions. Over the next six months the committee wrote the test questions that appear on this exam. The committee convened in person and via teleconference on numerous other occasions to review, edit questions and categorize questions in an organized question bank.

Individual questions were then assembled into a Test Form, consistent with an exam blueprint that specifies the number and percentage of questions for the various content domains that define the scope of the CxA program. This combined form was then reviewed as a whole to ensure the questions performed well when paired with other questions on the exam. A beta test was conducted as an additional quality assurance measure before the exam was finalized.

A criterion-referenced standard setting process was used to establish the passing point for the exam. This means that each candidate's performance on the exam is measured against a predetermined standard. Candidates are not graded on a curve and do not compete against each other or against a quota.

This passing score for the exam was established using a panel of subject matter experts who carefully review each exam question to determine the basic level of knowledge or skill that is expected. The passing score is based on the panel's established difficulty ratings for each exam question. Under the guidance of our psychometrician, the panel developed and recommended the passing point, which was reviewed and approved by the Council. The passing point for the exam was established to identify individuals with an acceptable level of knowledge and skill. Receiving a higher than passing score is not an indication of more advanced knowledge or a predictor of better job performance. All individuals who pass the exam, regardless of their score, have demonstrated an acceptable level of knowledge.