



Engineering Manager Professional Certification Handbook:

Certified Associate in Engineering
Management (CAEM)

and

Certified Professional in Engineering
Management (CPEM)

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Program Scope

This document covers the examinations required to attain engineering manager professional certification at the Certified Associate in Engineering Management (CAEM) level and at the Certified Professional in Engineering Management (CPEM) level.

See the ASEM web site for the certification application forms.

Background

The American Society for Engineering Management (ASEM) has established a multi-level Professional Certification Program:

- The Certified Associate in Engineering Management (CAEM) for technical management professionals who are recently graduated.
- The Certified Professional in Engineering Management (CPEM) for experienced technical management professionals.

These two certifications provide a formal method for recognizing the knowledge and experience of professionals involved in the complex task of technical and engineering management at both the introductory and advanced levels. Across the globe in all facets of business, industry, government, and academia, it is critical to understand and demonstrate the concepts of managing technical professionals and organizations, used by hundreds of certified engineering managers around the globe.

For over twenty years, the CPEM and CAEM have been recognized the world over as the gold standard in engineering and technical management certifications. "Certification" is defined as a formal process whereby a community of knowledgeable, experienced, and skilled representatives of an organization, such as ASEM, provides confirmation of an individual's competency (demonstrated knowledge, education, and experience) in a specified profession. It is important to note that the CPEM and CAEM certifications differ from licensing in that licenses are typically defined as permissions granted by a government entity for a person to practice within its regulatory boundaries. Certification also differs from a "certificate" that documents the successful completion of a training or education program.

The CAEM and CPEM certifications are the most important industry-recognized certification for technical managers. You can find CAEMs and CPEMs involved in managing and leading at all levels and types of engineering and technology-driven organizations. CAEMs and CPEMs work in virtually any industry, with an array of technical challenges, and in locations around the globe from China, to the Philippines, North and South America, Middle East, Africa, and Europe.

ASEM is continually engaged in intensive research and development to identify the education, skills, and knowledge critical for success as a technical management professional. This work has supported the development and continuous improvement of this formal method for recognizing the CAEM or CPEM engineering management professional designation.

Recognition as a CAEM or CPEM also provides a significant advantage when it comes to salary and earning potential. Information from the US Bureau of Labor statistics 2014-2024 forecast shows that the occupational classes of architectural and engineering managers along with computer and information system managers (two of our key constituents for the CAEM and CPEM) are the highest paid in the management category. The median manager wage is 20-50% higher than the annual wage for the technical employees managed in these fields. Employers benefit as well. With certified technical managers, organizations are more likely to enhance the productivity of the technical workforce, reduce turnover, promote innovation, and meet financial and project goals.

The CAEM and CPEM signify that you speak and understand the global language of engineering and technical management and connect you to a community of professionals, organizations and experts worldwide.

Certified Associate in Engineering Management



Overview

Professional certification at this level is designed for young technical professionals seeking to establish credentials in preparation for early technical management or supervisory assignments. The focus of the certification is to document the candidate has the requisite EMBoK knowledge to provide a foundation for professional practice. The CAEM Certification is valid for three years, can be renewed once, and requires verification of continuing education for renewal. The goal is to progress to the Certified Professional in Engineering Management (CPEM) during the CAEM interval.

A complete application package includes these steps:

1. Completed applicant information on the top half of page 2.
2. Completed applicant category selection on the bottom half of page 2.
3. A degree transcript. A digital copy of the official transcript is preferred; an unofficial transcript will be accepted with a copy of the diploma.

See the ASEM web site or contact asem-hq@asem.org for the application form

Exam Applicant Category ^{1, 4}	Exam Fee	Recertification
	Non-Member/Member ^{3, 5} / Academic partner ⁵	Fee Non-Member/
Bachelor's in related Technology or Engineering Field ²	\$250/\$150 / \$125	\$100
Master's from ASEM Certified Program <i>(no exam)</i>	\$150/\$125 / \$100	\$100
Master's in EM from Non ASEM Certified Program or Master's in related Technology, Technology Management, or Engineering Field ²	\$250/\$150	\$100

Notes for CAEM:

- (1) Copy of degree transcripts (digital copy of official preferred unofficial accepted) must accompany application.
- (2) At the discretion of ASEM, related Technology and Engineering Fields: Qualifying Bachelor's degrees include BS, BSET, or BSE (or international equivalents through such mechanisms as the Washington Accord or the Bologna Agreement) in the following or related engineering disciplines: aeronautics, astronautics, biomedical, chemical, civil, computer, electrical, environmental, industrial, mechanical, nuclear, software, systems. Other qualifying fields of study include chemistry, computer science, mathematics, chemistry, physics, and technology management. If the Bachelor's degree does not come from the above fields, then a Masters or Doctorate degree (or international equivalent) in those fields is acceptable.
- (3) ASEM Membership is required to receive the discounted rate.
- (4) No work experience required to pursue the CAEM.
- (5) Students in programs participating in the academic partnership receive a \$25 discount in addition to the member discount.
- (6) The exam is taken under supervision of a proctor, with no outside materials such as books, notes, or open web browsers.

Overview

The Certified Professional in Engineering Management (CPEM) Certification is designed to recognize experienced professionals who are seeking to validate with a professional certification their skills, knowledge, and experience in the management of technical operations. The focus of this application is to document the candidate has the requisite background for approval to sit for the examination. The CPEM Certification is valid for three years and requires verification of continuing education for renewal.

A complete application package includes these steps:

1. Completed applicant information on the top half of page 2.
2. Completed applicant category selection on the bottom half of page 2.
3. Completed summary of your experience on page 3 of this application where documentation is provided specifying that prior experience, addresses at least three of the required EMBOK domains.
4. A degree transcript. A digital copy of the official transcript is preferred; an unofficial transcript will be accepted with a copy of the diploma.
5. A resume summarizing your work experience.

Exam Applicant Category ¹	Experience ⁵	Exam Fee ⁴ (Nonmember/ member ³)	Check one
Bachelor's in related Technology or Engineering Field ²	4 years	\$300/\$250	
Master's in EM from ASEM Certified Program	3 years	\$250/\$150	
Master's in EM from Non ASEM Certified Program or Master's in related EMBOK Technology or Engineering Field ²	4 years	\$300/\$250	
PhD in Technology, Industrial & Systems, or Engineering Management (no exam required)	3 years	\$300/ \$250	

Notes for CPEM:

- (1) Copy of degree transcripts must accompany application (digital copy of official preferred; unofficial accepted with a copy of diploma).
- (2) At the discretion of ASEM, related Technology and Engineering Fields: Qualifying Bachelor's degrees include BS, BSET, or BSE (or international equivalents through such mechanisms as the Washington Accord or the Bologna Agreement) in the following or related engineering disciplines: aeronautics, astronautics, biomedical, chemical, civil, computer, electrical, environmental, industrial, mechanical, nuclear, software, systems. Other qualifying fields of study include chemistry, computer science, mathematics, chemistry, physics, and technology management. If the Bachelor's degree does not come from the above fields, then a Masters or Doctorate degree (or international equivalent) in those fields is acceptable.
- (3) ASEM Membership is required to receive the discounted rate.
- (4) Applicants from programs participating in the academic partnership receive a \$25 discount in addition to the member discount.
- (5) CV or resume documenting work experience with supervisor contact information must be provided to validate professional experience.

Examinations

The CAEM level of professional certification requires successfully passing the CAEM exam for all except those individuals who hold an MS degree from an ASEM certified graduate program. All individuals wishing to attain the CPEM level of certification must successfully complete the CPEM exam.

Certification Exam Format and Requirements

The format and requirements associated with the CAEM and CPEM exam are shown in the table below.

	Type of Exam	Number of Questions	Percent Correct to Pass	Time Allowed
CAEM	Multiple Choice	100	70	2 Hours
CPEM	Multiple Choice	200	70	4 Hours

Examination Process

1. Individuals desiring to take the exam must:
 - a. Apply to take the exam (Electronic Application Form)
 - b. Pay the required examination fee
 - c. Identify a third-party proctor* for the exam
2. Once an individual is authorized to take one of the exams, the examination will be provided in one of two ways both utilizing a proctor*:
 - a. **Web-based**
 - i. Identify a proctor
 - ii. A username and password for the exam will be given to the identified proctor to allow access to the exam on the ASEM website.
 - iii. The proctor will arrange a suitable computer terminal for the applicant to take the exam and ensure the exam is completed according to the instructions provided.
 - b. **Paper-based**
 - i. Identify a proctor
 - ii. The exam and an answer sheet with instructions will be sent to the proctor. The applicant and proctor will arrange for the exam to be completed according to the instructions provided.
 - iii. The proctor will return the exam and answer sheet to ASEM
3. Individuals passing one of the exams will receive the appropriate certification by ASEM.
4. Individuals failing an exam may retake it once within 90 days. After 90 days, an individual must submit a new application and pay the required fee. A second failure will result in the individual having to wait six months to take the exam again with a new application and fee.

*Proctors are third-party individuals who agree to serve in this capacity. They can be an individual's supervisor, someone from the HR department, or an education officer. A librarian at a public or university library or an authorized agent of a university or private testing center may also serve in the event someone within the applicant's company cannot be found. ASEM Certified Knowledge providers (CKPs) may also be authorized to give the exams.

An EXAM Application is available on the ASEM web site or contact asem-hq@asem.org.

Recertification

CAEM level

Individuals certified at the CAEM level may be recertified one time at the CAEM level. This option ensures that all CAEMs would be able to generate sufficient experience to qualify for the CPEM level. Recertification at the CAEM level can be achieved by accumulating 45 PDHs over the preceding three years and by paying a recertification fee to ASEM. PDHs are self-reported on the recertification application.

CPEM level

Individuals certified at the CPEM level may be recertified by accumulating 45 PDHs over the preceding three years and by paying a recertification fee specified on the web site. PDHs are self-reported to ASEM with the application for recertification.

Professional Development Hours

Every year, there are many opportunities to earn professional development units (PDUs) towards ASEM recertification. For recertification, individuals are required to self-report PDHs obtained during the preceding three years. It is the responsibility of the individual to maintain records supporting the PDHs reported, and these may be subject to audit by ASEM.

PDHs represent “a contact hour of instruction or professional development.” While courses and seminars are ideal ways to stay up to date with engineering management best practices, many other activities occurring in daily professional life may count toward PDHs. ASEM generally follows the guidance found from NCEES ([Continuing Professional Competency Guidelines](#)) for questions. The following is a list of example opportunities to earn PDHs that are recognized by ASEM. Other activities not listed here may qualify. Individuals may contact ASEM concerning the validity of other activities not listed here.

1. Professional Training Courses: Providers offering training courses based on the new or emerging topics related to the Engineering Management Body of Knowledge. Individuals earn one PDH for each hour of formal training. Taking a college course for one semester would be equivalent to 45 PDHs
2. ASEM Annual Conference: The annual ASEM conference offers opportunities to network with colleagues and attend presentations that go toward receiving PDHs. Individuals earn seven PDHs for each day of attendance.
3. ASEM Student and Community Offerings: ASEM Student Chapters hold events, meeting and educational sessions that are approved for PDHs. Individuals earn one

- PDU for each hour of chapter or community attendance.
4. Professional Activities: Authoring an article about engineering management or speaking at an engineering management event can quickly earn PDHs. ASEM offers 10 PDH's for an applicable conference paper or presentation and 20 PDH's for published, refereed journal article.
 5. Teaching, Seminars, and training: Individuals obtain PDHs by sharing engineering management knowledge with colleagues or students. ASEM will recognize activities that involve personally conducted research or study to develop these offerings. Individuals earn two PDHs for each hour of teaching or training for a first time offering. For example, teaching a one-hour professional development workshop would result in two PDH units.
 6. Educational Programs by Outside Providers: ASEM recognizes relevant educational activities or programs offered by organizations not associated directly with ASEM. One hour of learning relevant to engineering management within a structured activity or course equals one PDH.
 7. Volunteer Professional Service: Individuals earn PDHs for providing services to a professional organization or society related to the field of engineering management. Opportunities exist to serve as an elected officer, conference official, or committee member. Volunteer engineering management related service can also be provided to a community or charitable group. Individuals earn up to 5 PDH's per year for volunteer work.