

The Manual of Procedure for the Education & Accreditation Committee of AIChE

August, 2018

1. Overview of the Education & Accreditation Committee and Accreditation

The AIChE has established the Education & Accreditation (E&A) Committee with roles and responsibilities as follows:

“This committee serves (a) as the Institute's authority on the status of chemical engineering education; (b) advises schools on methods and standards of chemical engineering education; and (c) inspects and evaluates chemical engineering programs for ABET. This committee is authorized to cooperate with other inspecting and accrediting agencies under agreements ratified by the Board of Directors.”

In practice this committee devotes most of its efforts to the accreditation process, helping to ensure that it is well understood and that it is applied in a manner that is consistent with the Criteria for Accrediting Programs as set forth by ABET. AIChE played a major role in the formation of the original engineering education accreditation organization, the Engineering Council for Professional Development (ECPD), in the 1930's, having already initiated its own accreditation activities. The E&A Committee has the responsibility for maintaining that legacy.

2. Goals and Objectives of the E&A Committee

Consistent with its *Roles and Responsibilities*, the goal of the E&A Committee is to work closely with the Engineering Accreditation Commission (EAC) and the Engineering Technology Accreditation Commission (ETAC) of ABET in setting and implementing accreditation policy. Members of the E&A Committee seek to understand the latest trends in chemical engineering practice and education and to implement accreditation procedures that satisfy the needs and expectations of the chemical engineering profession. In so doing, members of the E&A Committee participate, along with representatives of the other engineering disciplines, to set accreditation policy that is consistent for the entire engineering profession. In addition, the E&A Committee sets specific accreditation criteria that apply for chemical engineering programs.

An important goal is to help the chemical engineering profession appreciate the latest accreditation procedures and to respond carefully to criticisms through internal actions and in close cooperation with the EAC and ETAC of ABET. Another goal is to provide supplemental training of program evaluators (PEVs), in conjunction with ABET training, and to provide consistent interpretations of PEV's findings in line with the diverse population of chemical engineering departments that seek accreditation, upholding accreditation standards, while avoiding strict, narrow interpretations; emphasizing that the primary role of accreditation is

to insure minimum standards in engineering programs. Finally, a goal is to help chemical engineering departments prepare for accreditation visits in ways that improve their program.

3. Organization within AIChE and ABET

A. AIChE

The Education and Accreditation Committee is part of the Career and Education Operating Council (CEOC) that reports to the Board of Directors of AIChE.

B. ABET

ABET, Inc. is recognized as the U. S. accreditation authority for college and university programs in applied and natural science, computing, engineering, and engineering technology. ABET (<http://www.abet.org>) is a federation of 35 professional and technical societies representing the fields of applied and natural science, computing, engineering, and engineering technology.

- The major parts of ABET are the Board of Directors and the Board of Delegates. As per the ABET Constitution (with reference to Articles in the ABET Constitution):

“The Board of Directors shall establish those policies and procedures needed to carry out the purposes defined in Article Two. It shall establish and modify as needed the Constitution, subject to the ratification procedure defined in Article Eleven. It shall establish the annual budget and member assessment formula and in all other ways maintain responsibility for the well –being of ABET. The Board of Directors delegates authority for establishing and revising accreditation policies, procedures and criteria to the Board of Delegates (Article Seven) with the constraint that compliance is maintained with all requirements of Recognitions, Accords, and Agreements in which the Board of Directors has committed ABET to be a participant.”

The number of delegates from a particular society is based on the number of accredited programs. Currently two members of the E&A Committee represent the AIChE on the Board of Delegates. A delegate can serve two successive three-year terms.

- Commissions

ABET is made up of four commissions. These commissions implement accreditation procedures and decisions. Commissions are also responsible for developing accreditation actions. These actions must be approved by the Board of Delegates.

Commission members, (who serve as chairs of accreditation teams) and program evaluators (who are provided by the professional societies), comprise the accreditation teams. These teams conduct on-campus accreditation visits to evaluate programs seeking accreditation. The four Commissions are:

1. *Applied and Natural Science and Accreditation Commission (ANSAC)*
There are no AIChE representatives on the ASAC.

2. *Computing Accreditation Commission (CAC)*
There are no AIChE representatives on the CAC.

3. *Engineering Accreditation Commission (EAC)*

The number of commissioners from a particular society is determined by the number of accredited programs. Currently eight members of the E&A Committee sit on the EAC. Their terms are five years. Two EAC alternates are also designated from the E&A Committee. It is customary for the EAC members to be active members of the E&A committee, although it is not strictly required. Each commission member is expected to be a team chair for an accreditation visit at least once a year.

4. *Engineering Technology Accreditation Commission (ETAC)*

AIChE has one representative and an alternate on the ETAC. ETAC commissioners and alternates are also members of the E&A committee.

The E&A committee develops recommendations on accreditation actions for chemical engineering and chemical engineering technology programs. These recommendations are shared with the EAC and ETAC by the AIChE commissioners.

- Councils

Councils include the Industrial Advisory Council, whose members represent the major industries ABET serves, the Accreditation Council, whose members are the leaders of ABET's four commissions; and the International Activities Council (INTAC), whose members are current and former board and commission members.

- Committees

Permanent and ad hoc committees address a variety of issues, including diversity, governance, strategic planning and finance.

ABET's sources of income from societies include:

- Accreditation and maintenance fees from universities

Universities get charged a fee for an accreditation visit. The current fees are found at <http://www.abet.org/accreditation/get-accredited-2/cost-of-accreditation/> for programs inside the U.S. and are found at <http://www.abet.org/accreditation/get-accredited-2/cost-of-accreditation/fees-for-programs-outside-the-u-s/> for programs outside the U.S.

- Director and curricular fees from professional societies

For the 2018-19 accreditation cycle, professional societies get charged \$17,619 for each director plus \$250/program for which that society is the lead. For AIChE there are two directors plus responsibilities for 214 programs. This number includes domestic and international programs accredited by EAC and ETAC.

4. Responsibilities of the E&A Committee

A. Mentoring and Training of Program Evaluators

The evaluation and inspection of chemical engineering programs are accomplished through program evaluators (PEVs) who are selected by the E&A Committee. The selection of PEVs is described in Section 5A.

All PEVs must be trained by ABET before they are approved to evaluate an engineering program. In AIChE, a significant part of training is participation as an observer in a regular ABET accreditation visit to an institution. An individual must participate as an observer before being approved for PEV status by the E&A Committee. AIChE provides funding for observer travel to an accreditation visit, and the observer is formally representing AIChE, not ABET.

The E&A Committee has the responsibility within AIChE for providing supplemental training, particularly in regards to the chemical engineering program-specific criteria. Periodically, additional training of approved PEVs may be conducted to improve consistency of recommended accreditation actions.

B. Defining Program Criteria

ABET's Criteria for Accrediting Engineering Programs specify that programs must satisfy applicable program criteria, if they exist.

The E&A Committee has the responsibility to develop the criteria for the programs where AIChE is designated as the Lead Society. Guidance in applying both the General Criteria and Program Criteria is provided to PEVs by the E&A Committee.

Recommendations of new Program Criteria are developed by the E&A Committee and then sent forward to the Career & Education Operating Council for approval. The Council, after approval, then submits the Program Criteria to the AIChE Board of Directors for approval. After Board approval, the Program Criteria are then forwarded to the applicable commission of ABET for the approval process.

Briefly, the Criterion Committee of the applicable commission considers the program criteria and recommends approved versions to the full ABET commission. Following approval, the commission then forwards the new criteria to the ABET Board of Delegates.

The Board first gives preliminary approval then the new Program Criteria are published one year prior to final implementation to allow for review and comment by institutions and other interested parties.

C. Nominating EAC and ETAC Representatives

As noted in Section 3B, the EAC and ETAC of ABET are two of four accreditation commissions of that organization. The EAC and ETAC have responsibility of evaluating and rendering accreditation decisions for engineering and engineering technology programs, respectively. These evaluations and decisions are based on policies, procedures and criteria that have been approved by the ABET Board of Delegates. The EAC decisions are final, except for appeals of "not to accredit" actions.

The E&A Committee nominates the EAC and ETAC representatives from among the E&A Committee membership. The nominees must have experience as a PEV for chemical engineering or chemical engineering technology programs. Normally, each EAC and ETAC commissioner serves for a five-year term, and the terms are staggered to help ensure continuity of experience.

D. Ensuring Consistency of Recommended Actions

The E&A Committee reviews all recommended accreditation actions for chemical engineering and related programs each year. The purpose of this review process is to ensure that like shortcomings result in the same accreditation action for all programs.

The E&A Committee meets annually just prior to the ABET July Commissioner's Meeting to review recommended accreditation actions by each accreditation team. The E&A Committee makes an independent accreditation action recommendation based on information that was developed by the PEV assigned to the chemical engineering program. If the E&A Committee recommendation differs from that of the accreditation team, the procedure described in Section 5B is followed to obtain a change from the original accreditation action.

5. Roles of the E&A Committee Members

There are a number of different roles that must be fulfilled by E&A committee members if the committee is to function effectively.

A. Committee Leadership

The E&A Committee elects from its membership a chair who agrees to serve for an unspecified number of years. The Chair may appoint a vice-chair, a secretary, or a subcommittee to whom he or she may delegate some of the administrative responsibilities noted below. The Chair must have sufficient experience in the workings of the committee to effectively lead it in fulfilling its responsibilities as discussed in the previous section as well as to be its primary interface with the CEOC of AIChE and ABET. Administrative responsibilities include:

Future Directions and Activities – Setting the time and agenda for all committee meetings and bringing ideas and recommendations for future directions and activities to the committee. The Chair works with the committee members to develop appropriate responses to these ideas and recommendations. Liaison with the CEOC and with various committees of ABET is a necessary part of the development of new directions and activities.

Training and Membership – Making recommendations for new members and new PEVs, keeping records of the status of all members and evaluators, and providing PEV supplemental training.

Committee Meetings – Organizing the meetings of the committee, usually one at the annual AIChE meeting in November and one just before the ABET July Commissioner’s Meeting. An agenda and minutes of the meetings are recorded.

Committee Communications – Functioning as a hub of communication for the committee, which is made convenient by the use of conference calls, email and attachments.

Evaluator Assignments – Assigning the PEVs for the chemical engineering programs to be evaluated. ABET provides the list of programs requesting visits and the visit dates determined by the assigned team chairs. The ABET website software is used to make the PEV assignments. Direct contact with the visit team chair is sometimes necessary. It is important that all PEVs submit to ABET new biographical data each cycle in order to assign them. These assignments usually begin in April or May and continue until complete, hopefully by July, since visits occur in the September to December months. In addition to the evaluators, a liaison is assigned from the E&A committee to each PEV to help in difficult situations and to keep track of the evaluation process.

B. Committee Members

Membership – New E&A members are elected by the current E&A Committee. E&A Committee members are AIChE members who have served as PEVs for several years and have expressed interest in serving as E&A members. The term of membership is indefinite, but each member is expected to serve on the Committee for at least ten years.

Meetings Attendance – E&A members are expected to make every effort to attend the E&A Committee meeting during the ABET July Commissioner’s Meeting, currently in Baltimore, and if possible, also attend the E&A Committee meeting at the Annual National AIChE meeting. It is the responsibility of each E&A Committee member to pay for their own travel to these meetings. In many cases, the organization of the committee member (company or university) will reimburse travel.

Professional societies play a key role in helping to shape final actions. As noted in Section 4D, prior to the ABET July Commissions meetings, most professional societies, including AIChE, hold caucuses. The purpose of these caucuses is to review program statements and

proposed actions for programs in their discipline. Occasionally, the E&A Committee will find a program where we disagree with the proposed action. The AIChE Commissioners then visit with the team chair to convince him or her to change the recommendation. If that is not successful, a proposed change will be made at the Commission meeting.

E&A members are expected to participate in all additional committee discussions, either in person or via remote electronic means, concerning program criteria and other issues of interest to the committee.

Responsibilities – It is the responsibility of each member to help the E&A Committee to accomplish its objectives. E&A members are expected to:

- serve as a PEV at least once a year.
- serve as liaisons whenever necessary as described in Section 5A. Furthermore, in the E&A Committee meeting each summer, the liaison acts as the representative of the PEV and the school to present and discuss any issues regarding the recommendation for that school. Therefore, the liaison should ask the PEV to send the final version of the evaluation report including the worksheet and any changes in action after the due process period. It is the responsibility of the liaison to review these documents and be prepared for the consistency discussions held in July. If the liaison identifies problems that could cause a discussion at the summer E&A meeting, the liaison should send the final version of the report to the other members of E&A to inform them in advance of the possible issues
- serve as representatives on EAC or ETAC, when nominated by the Committee, as described in Section 4C.
- help with the PEV training program when necessary.

Communications – E&A members, in accomplishing every responsibility described above should follow the prescribed communications and keep the Committee members informed.

6. Roles and Responsibilities of the Program Evaluator (PEV)

All training of new PEVs is done by ABET. For more information on becoming a PEV, see <http://www.abet.org>, and click on “become an evaluator” at the bottom of the home page.

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