



## **ABET's Work With Higher Education and Accreditation**

*By David Little, former ABET Board of Directors member*

ABET is an organization that provides world leadership to ensure quality and stimulate innovation in applied science, computing, engineering and technology education. The organization serves the public through the promotion and advancement of these subjects. One of the ways is by organizing and carrying out a process of accreditation of pertinent programs leading to a degree in those areas.

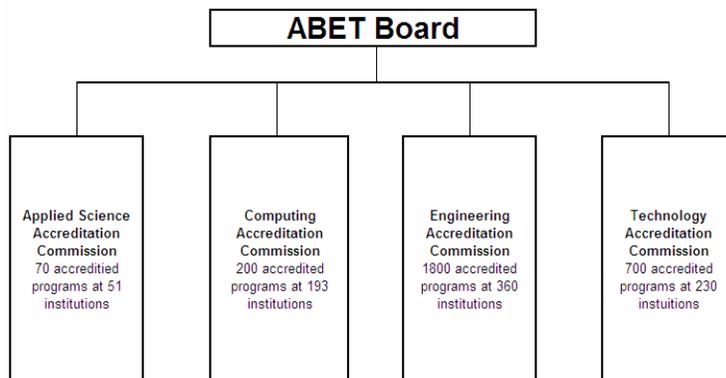
In fact, ABET is the primary organization responsible for monitoring, evaluating and certifying the quality of education in those areas in the United States. ABET is recognized by the Council for Higher Education Accreditation.

ABET is a federation of 29 technical and professional societies representing more than 1.8 million practicing professionals. ABET invites each of the societies to have representation on one or more of the four ABET commissions (see Figure 1), according to the curricular areas of which those societies are assigned by ABET's board of directors.

The four commissions are:

- Applied Science Accreditation Commission.
- Computing Accreditation Commission.
- Engineering Accreditation Commission.
- Technology Accreditation Commission.

**Figure 1** Governance Structure of ABET





The commissions are responsible for administering the accreditation process based on policies, procedures and criteria approved by the ABET's board of directors. The accreditation commissions recommend criteria, assign the chairs of the visiting teams and make final accreditation decisions by vote of the entire membership.

The societies are responsible for a number of other functions related to ABET accreditation in addition to the selection of program evaluators. Each society is responsible for arranging training and mentoring of its program evaluators. The societies nominate members of the commissions and appoint members of ABET's board of directors.

Finally, each society recommends accreditation criteria that pertain exclusively to its assigned curricular area. These "exclusive" criteria are known as program criteria—criteria that apply to all of the programs under a commission are known as general criteria.

#### **More on ABET**

##### **Key elements of ABET accreditation**

- Assures quality.
- Is nongovernmental.
- Is voluntary.
- Requires self-assessment.
- Is peer review based.
- Requires continuing review (at least every six months).

##### **Some facts**

- Established in 1932.
- Provides a mechanism for professional societies to examine and effect academic quality.
- Currently a federation of 29 societies representing millions of technical professionals.
- Accredits applied science, computing, engineering and technology programs.

##### **Societies and ABET**

- Develops discipline-specific accreditation criteria.
- Provides program evaluators from the core disciplines.
- Nominate members of the ABET accreditation commissions and appoints members to the Board of Directors.

#### **How are programs evaluated?**

The entire program evaluation process typically takes 19 months. It begins in January of the first year, when the institution requests accreditation of its programs. The visit is usually conducted sometime between September and December of the first year. Following the visit, the institution has 14 days to respond to the preliminary findings that the evaluation team reported to them during its campus visit. Following this period, a detailed report of the team's findings is authored by the team chair.

This report, known as the draft statement, then passes several stages of review and possible editing. The entire commission votes on accreditation action during July of the second year. The institution is notified of the action for each program shortly after the commission vote.

The institution has a number of tasks to complete during the evaluation process. Following the request to be



evaluated for accreditation, the institution—with input from each program—completes a self-study report. This report contains the bulk of the information that the accreditation team receives prior to the on-campus visit. In parallel, the institution completes other preparations for the team’s visit, including the development of the displays of documented materials for each program that cannot be included in the self-study report.

The institution then hosts the visit. After the visit, the institution can respond to the team’s findings within the first 14 days after the visit, and then again after it receives a copy of the draft statement.

The team chair is responsible for a number of activities during the accreditation process. The chair is responsible for ensuring the composition of the team is appropriate, and for the overall organization of the visit. The chair mentors the evaluators prior to the visit and leads the team during the visit. The chair then authors the draft statement. Finally, the chair presents the findings to the commission in July of the second year.

### **Detailed definitions, criteria**

According to the *ABET Accreditation Policy and Procedure Manual*, while ABET recognizes and supports the prerogative of institutions to use and adopt the terminology of their choice, it is necessary for ABET volunteers and staff to have a consistent understanding of terminology. The commissions use the following basic definitions:

- **Program educational objectives:** Program educational objectives are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve.
- **Program outcomes:** Program outcomes are narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge and behaviors that students acquire in their matriculation through the program.
- **Assessment:** Assessment is one or more processes that identify, collect and prepare data to evaluate the achievement of program outcomes and program educational objectives.
- **Evaluation:** Evaluation is one or more processes for interpreting the data and evidence accumulated through assessment practices. Evaluation determines the



extent to which program outcomes or program educational objectives are being achieved, and results in decisions and actions to improve the program.

ABET's website contains detailed information about the criteria for different accreditation programs, including those for baccalaureate and associate degree programs and master's level programs. In brief, the general criteria for baccalaureate and associate degree programs are:

- Students.
- Program educational objectives.
- Program outcomes.
- Continuous improvement.
- Curriculum.
- Faculty.
- Facilities.
- Support.
- Program criteria.

The criteria for master's level programs are the same as the baccalaureate and associate degree programs, with two additions:

- One year of study beyond the baccalaureate level.
- A project or research activity resulting in a report that demonstrates mastery of the subject matter and a high level of communication skills.

ABET's future includes international expansion. A mutual recognition agreement (MRA) is an agreement formed between ABET and an international accreditation system (or multiple systems, in some cases). MRAs recognize the substantial equivalency of certain international accreditation systems with respect to the preparation of graduates to begin professional practice at the entry level. Signatories agree to recommend that graduates from recognized programs be afforded the same rights and privileges as graduates in the home country. These agreements are not binding on colleges, universities, employers or licensing agencies.

For more information about ABET, or to download the current criteria document and the accreditation policy, visit [www.abet.org](http://www.abet.org).



*David Little is quality manager and auditor of quality systems/engineering assurance, global operational excellence of Tyco Electronics Corp. in Harrisburg, PA. He is an ASQ Fellow and member of the Harrisburg Section 503, ASQ-certified quality engineer and auditor and RAB-certified quality management system lead auditor. Little represented ASQ on ABET's board of directors from 2003-2005. He also served on ASQ's board of directors, research advisory board and section affairs council, and is currently a member of ASQ's education training board, bylaws committee and membership committee.*