Aligning Accreditation Criteria and Processes with the CDIO Approach

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ABSTRACT

Purpose
Using ABET as an example, this workshop describes the criteria and processes for the accreditation of engineering programs and aligns them with the CDIO approach. For example, it demonstrates ways in which an engineering program's educational objectives and student learning outcomes may be aligned with the CDIO Syllabus 2.0. Examples are drawn from programs that have used the CDIO approach in meeting the requirements for accreditation in their respective countries or regions. The main purpose of the workshop is to encourage systematic and continuous program evaluation beyond meeting periodic requirements for accreditation.

Rationale
Assessment and evaluation of most engineering programs around the world include the need to meet accreditation requirements of their respective nations. For example, in the United States, ABET is the key organization for accreditation of engineering programs. By adopting the CDIO approach, many engineering programs meet ABET criteria, especially Criteria 2 and 3, which are related to educational objectives and student outcomes. Many engineering programs have expressed interest in ways to align their internal program evaluation processes with those required for national and international accreditation.

Outline
The main ideas to be discussed include

- The alignment of the CDIO approach with accreditation requirements in selected accreditation systems
- The alignment of CDIO Syllabus 2.0 with ABET Criterion 2 (Educational Objectives) and Criteria 3a – 3k (Student Outcomes)
- Examples of methods and tools to collect direct and indirect measures
- Use of direct and indirect measures to demonstrate attainment of student outcomes

Presentation Method and Handouts
Participants will be invited to share their own experiences with accreditation of their respective programs. A set of PowerPoint slides will guide the discussion. Supplemental handouts include:

- A sample data collection plan mapped to Criteria 2 and 3
- Sample reports of direct and indirect assessment measures

Relevance

This workshop is relevant for individuals responsible for curriculum and program evaluation. Engineering instructors may also find it useful for the assessment of student outcomes within their respective courses. This workshop addresses three topics of interest:

- Self-evaluation of CDIO programs
- Assessment of student CDIO skills
- Curriculum and program design

Keywords

program evaluation, accreditation, assessment criteria, assessment methods, CDIO Syllabus 2.0