IEA (Global) and ABET (U.S.) Accreditation Challenges

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*IEA & ABET View of PTE**

- Focus on Adequate Preparation
  - Successful career entry
  - Well prepared for continuing professional development
  - Professional career outlook
- Outcomes Approach to Quality
  - Abilities and knowledge at PTE completion
  - Results of PTE more important than specific mechanisms/processes

*Professional Technical Education

ABET - Important Thematic Issues

- Anticipating Competencies/Attributes of Successful Graduates
- Organizing to Create New Pathways
- Adapting to Millennial Learners
- Rethinking Quality Assurance
- Engaging Constituencies
- Convening an Ongoing Collaborative Dialog Leading to Innovation and Transformation

Big Issues Driving Rapid Change

- Accelerating Evolution of Technology
- Sustainability
- Environment
- Globalization
- Social and Economic Uncertainty
- Diverse Approaches Among Global, National, and Regional Constituencies

Implications for PTE and Accreditation

- Continuing Importance of Quality Assurance Mission
- Effectively Engage and Communicate with Constituencies
- Collaborate and Partner with Stakeholders to Address the Themes and Issues
- Collaborate to Convene the Stakeholders

ABET International Activities Overview

- Global Council (GC)
- Washington Accord / Sydney Accord / Dublin Accord / Seoul Accord
- Western Hemisphere Initiative / Engineering for the Americas
- Mutual Recognition Agreements (MRA)
- Memoranda of Understanding (MOU)
- Technical Assistance to Institutions
- Technical Assistance to Quality Assurance Organizations
- Program Accreditation

IEA - What is Professional Competence?

- Professional Engineers are able to perform functions because of their:
  - Knowledge,
  - Skills, and
  - Attitudes
- Competence is developed by
  - Education,
  - Training, and
  - Experience

The Washington Accord Agreement recognises that:

"Accreditation of engineering academic programs is a key foundation for the practice of engineering at the professional level in each of the countries or territories covered by the Accord."

Graduate Attributes Defined

- *Graduate attributes* form a set of individually assessable outcomes that indicate the graduate's potential to acquire competence to practise at the appropriate level.
- The Graduate Attributes are exemplars of the attributes expected of graduate from an accredited programme.
- Graduate Attributes are clear, succinct statements of the expected capability, qualified if necessary by a range indication appropriate to the type of programme.

The IEA GA & PC

- Graduate Attributes (GA) are defined for programmes with the purpose of providing educational base for
  - Professional, Chartered or similarly titled Engineers
  - Professional, Incorporated or similarly titled Engineering Technologists
  - Engineering Technicians
- Professional Competency (PC) Profiles are defined by the IEA for the same groups

Discipline-independence

- Graduate Attributes have three components that apply equally in all engineering disciplines:
  - Outcomes: what the graduate is able to do
  - Level of problem solving
  - Knowledge profile
- Many accreditation systems have no discipline-specific criteria
- Discipline specific requirements are considered by peer-judgement

Collaborative Approaches to Global PTE are Essential

- The challenges of today are enormous and mandate collaborative global approaches
- Common expectations for PTE outcomes are essential
- Collaborative approaches to PTE accreditation are essential to workforce mobility
- Collaborative initiatives are leading to innovation in PTE

Globalization

- Engineering is a global enterprise
  - Not multi-national – Global!
- Engineering education at all levels must prepare future engineers for careers in global enterprises
- Engineers must be prepared to be global citizens

Discussion