Developments in Engineering Education Standards: Advanced Curriculum Innovations

Mohammad Rasul (CQUniversity, Australia)

Engineering education methods and standards are important features of engineering programs that should be carefully designed both to provide students and stakeholders with valuable, active, integrated learning experiences, and to provide a vehicle for assessing program outcomes. With the driving force of the globalization of the engineering profession, standards should be developed for mutual recognition of engineering education across the world, which is proving difficult to achieve.

Developments in Engineering Education Standards: Advanced Curriculum Innovations will address engineering educations standards for the development of models for engineering education standards, and a widely acceptable approach to the curriculum design and development. The reference is composed of academics, professionals, researchers, and students working in the area of engineering education.

Topics Covered:

- Assessment practices and methodologies in learning and teaching, and pedagogical aspects of engineering education
- Case studies in engineering education standards, both in developing and developed countries
- Education standards, quality assurance and globalization of engineering programs
- Graduate attributes, competencies and skills in engineering education
- Industry and University interaction for the quality improvement in engineering education and program development
- International recognition of standards of engineering education
- Outcomes and competency based engineering program and education
- Project based learning and teaching of engineering programs
- Surveys to improve quality of engineering education

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Mohammad Rasul obtained his PhD in the area of Energy and Thermodynamics from The University of Queensland (UQ), Australia, in 2006. He received his Master of Engineering in Energy Technology from Asian Institute of Technology (AIT), Thailand, in 1990. In 1987 he completed his first degree in Mechanical Engineering from Bangladesh University of Engineering and Technology (BUET), Bangladesh. Currently, he is an Associate Professor in Mechanical Engineering, School of Engineering and Built Environment, Faculty of Sciences, Engineering and Health, Central Queensland University, Australia. He is specialised and experienced in research, teaching, and consultancy in the areas of energy (industrial, building, and renewable energy) and thermodynamics (energy intensive process industries). He has published over 200 research articles both in reputed journals and conferences including 7 book chapters and two edited books in the area of energy and engineering education. He has supervised many PhDs and Research Masters students to completion and attracted millions of dollars research funding. He is recognised in professional communities, which he has demonstrated through creating significant impact and the large number of citations of his research by the relevant professionals, both nationally and internationally. He has also made significant contributions in engineering education research and scholarships. He has published several refereed conference papers and book chapters in the area of project-based learning and innovative teaching practices. His contributions to the profession and national and international communities have been demonstrated through his varied roles and activities, such as membership of national and international technical, scientific, and advisory committees, membership of different professional organizations (such as Engineers Australia) and various organizing committees. He has also contributed to the research and professional community by reviewing manuscripts for journals and conferences, editing proceedings, and examining postgraduate theses. He has been leading and contributing to the strategic research on Resource Industries and Sustainability.
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