

NCDEAS Report to Engineers Canada

J.A. Nicell, Dean of Engineering, McGill University

- **Consultation:** Met with Dr. Mario Pinto, NSERC President, to provide input into NSERC's strategic plan, vision for innovation in Canada, research funding programs, etc.
- **Global Engineering Deans Council:** New initiatives such as carbon free innovation network; next GEDC meeting to be hosted by McMaster in Niagara Falls, October 2017
- **Advocacy Committee:** Collaboration with Engineers Canada on advocacy meetings in Ottawa on theme areas of common interest (e.g., STEM education, R&D spending, innovation)

NCDEAS Committees

- **NCDEAS / NSERC Liaison Committee:** Topics of national importance to Canadian engineering research community
- **Education Committee:** Supporting the *Canadian Engineering Education Challenge* (CEEC), through the **Engineering Change Lab**, to experiment with and measure the effectiveness of various teaching methods
- **Research Committee:** Supporting CMC Microsystems and the National Design Network in funding request to federal gov't
- **Deans Liaison Committee:** Continuing priority is to move forward with the accreditation pilot project

Recap of NCDEAS Perspectives

- Need for shift of emphasis to outcomes based assessment
- Current process entails onerous workloads for HEIs and visiting teams, inhibits educational innovation, discourages international student exchange programs, and over-emphasizes the importance of in-classroom instruction
- Accreditation Forum in August 2016:
 - Conclusion: Status quo is not an option
 - Priority action: Conduct a pilot project to create/assess one or more alternate models for accreditation

Accreditation Pilot Project

- With the strong endorsement of NCDEAS, 12 HEIs from across Canada have volunteered to participate in the pilot initiative
- Project planning document completed with two parts:
 - 1) Drivers for Change: (i) Changes in education delivery; (ii) practical mosaic of today's applicants; (iii) input vs outcome measurements; (iv) NCDEAS concerns
 - 2) Pilot Straw Dog: (i) Best practices of other accrediting bodies; (ii) stakeholder input; (iii) pilot considerations
- Ref: "Balancing Inputs and Outputs" (Isaacson et al., 2012)

Accreditation Pilot Project

- Pilot will likely examine two options in place of AUs - ECTS units (European Credit Transfer System) and academic credits
- Shift emphasis from classroom hours to student learning time
- New forms analogous to AU tables completed by HEIs
- HEIs assign hours of work outside class for each class hour
- Alternate set of forms offered in advance to visiting team
- Assess the relative merits of both measures
- Feedback used to assess the success of the pilot

Accreditation Pilot Project

Anticipated advantages to the proposed approach:

- 1) Doesn't constrain teaching and learning methodologies
- 2) Drop-in replacement for AU's - all other features of AB system can be maintained
- 3) Already used successfully in Europe with learning outcomes
- 4) Transferable in Europe facilitating international exchange
- 5) Addresses issues that different HEIs have different length terms and credits with different weights

(NOTE: This approach will **not** result in a workload reduction)

Next Steps

- Hire staff personnel in support of pilot project
- Finalize advisory group terms of reference
- Follow schedule of the milestone plan for the pilot
- Proceed with the pilot visit plan at volunteer HEI's
- Present pilot concept at CEEA conference (Toronto)
- Review pilot report and present recommendations to AB
- Anticipated timeline: one year