Curriculum Review ς Public Report

Department of Electrical and Computer Engineering

Schulich School of Engineering

http://schulich.ucalgary.ca/

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The Department of Electrical and Computer Engineering (ECE) in Schulich School of Engineering at the University of Calgary administers two major curricula: Electrical Engineering (ENEL) and Software Engineering (SENG), as well as a minor curriculum in Computer Engineering (ENCO). The Department offers two interdisciplinary specialization options: Biomedical Engineering, and Energy and Environment.

The undergraduate curriculum gives students a broad education in electrical, computer and software engineering. All first-year students take the same common-core program in mathematics, sciences, computing, communications, engineering principles, and design.

The electrical engineering program of study offers courses in electric machines, electronic devices, circuits and networks, radio communication, computers, control systems, and other key areas. A wide variety of technical elective courses, such as digital communication, microwaves, renewable power systems, allow our students to specialize at the senior level.

The software engineering program of study offer courses in computer architecture, operating systems, computer networks, databases, software analysis, design and implementation, and large scale software systems. The available technical electives include options such as virtual reality, computer graphics and web application development.

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The Department of Electrical and Computer Engineering gathered data from different sources, such as consultations with the Industrial Advisory Board (IAB), alumni, ăűdzŘŜyűăΩ feedback, a department retreat, graduate attribute data, and data from the curriculum mapping process. These were carefully reviewed and analyzed to identify some guiding questions to be addressed for improving the ŘŜǈI·ǋűϒŜyűΩă ŜȅʎăűʎyƎ programs. The process is illustrated in Figure 1.

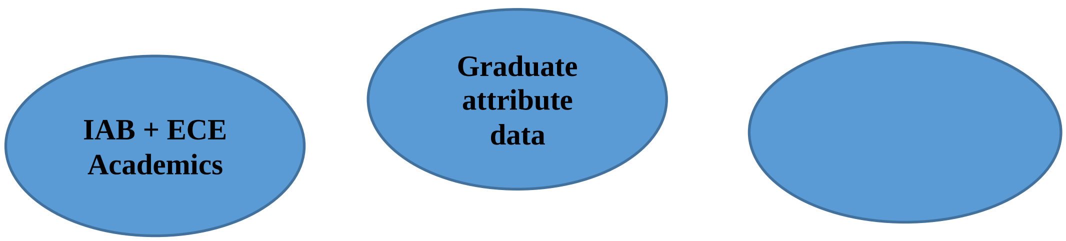

Figure 1: Curriculum review process

The guiding questions for Electrical Engineering and Software Engineering are given below.

- How might we prepare our students better for entering the real world of engineering?
- How might we improve the connections and flow between courses, and improve the opportunities for students to take courses that interest them?
- How can we provide more opportunities for students to improve their abilities to analyze and design considering the impact of engineering on society and environment?

A set of action plans has been recommended for Electrical Engineering and Software Engineering as presented in Tables 1 and 2.

Table 1. Recommended action plan