

ABSTRACT: Sitting in a Design Chair – Reflections on the NSERC Chairs in Design Engineering Program

At the beginning of the 21st century, the Natural Sciences and Engineering Research Council of Canada announced an innovative new funding program entitled Chairs in Design Engineering. The purpose of the program was, and still is, “to improve the level and quality of design engineering activity within Canadian universities.”

Dr. Tom Brzustowski, then President of NSERC, and the creative force behind the program, saw this as a means of countering the research focus that had come to dominate most Engineering programs in Canada.

In the NSERC literature Design Engineering is defined as “an enabler of innovation”. “It is the activity that creates the concepts and designs, and develops the new and improved products, processes and technologies...” It “integrates mathematics, basic sciences, engineering sciences and complementary studies in developing elements, systems and processes to meet specific needs. It is a creative, iterative and often open-ended process subject to constraints which may be governed by standards or legislation to varying degrees depending upon the discipline.” The goal of the CDE program is to educate engineering students in a manner that enables them to feel comfortable in this sort of work environment. Ultimately NSERC intends to maintain 16 concurrent CDEs across Canada to assure a continuing, and growing, population of institutions with a focus on design engineering education.

The program is not formulaic. In general it is objective driven, much like a design problem. There are expectations that must be met, but again, these are little more than design constraints. There is a specific requirement to “increase the design engineering capacity of the university by creating additional design-engineering-related positions”. This seem to be reasonable given that changes in a curriculum require people who can deliver those changes. In 2001 the first Chairs in Design Engineering were awarded to five persons at universities across Canada. Ron Britton was one of those five persons. His Chair was renewed in 2006 for a further five years.

Ron’s presentation will reflect on his experience with the CDE program in general, and the Manitoba program in particular.