ELE863 – VLSI Systems

- **Course Outline**

  http://www.ee.ryerson.ca/undergraduate/dcd/ele863.html

- **Key Knowledge to Be Acquired**

  Switching noise and design techniques for minimizing switching noise, analog and digital grounding, electrostatic discharge (ESD), ESD protection devices and systems, VLSI interconnects, modeling of VLSI interconnects at low, intermediate, and high frequencies, impedance matching networks, interconnect termination schemes, on-chip power distribution, on-chip clock generation and distribution, memory design, and high-speed data links.

- **Key Skills to Be Mastered**

  Computer-aided design (CAD) tools from Cadence Design Systems for design and analysis of VLSI circuits and systems. CAD tools for VLSI design are used extensively in both laboratories and course projects.

- **Potential Careers**

  Integrated circuit engineers, RF circuit engineers, electronics system engineers, system integration engineers, electronics system test engineers, instrumentation engineers, embedded systems engineers, …

- **Potential Employers**

  Advanced Micro Devices, Cadence Design Systems, DALSA, Fresco Microchip, Gennum, Genesis Microchip , Kaben Wireless Silicon, Kapik Integration, Mitel Semiconductor, MOSAID Technologies, PMC-Sierra, Research-in-Mortion, ST Microelectrnics, Snowbush IP, Zarlink Semiconductors, …

- **Graduate Studies**

  Carleton, Calgary, Ryerson, Toronto, Waterloo, UBC, McGill, etc., have strong graduate programs in microelectronics and RF microelectronics.