COE828 – Digital System Design Automation

- **Course Outline**
  http://www.ee.ryerson.ca/undergraduate/dcd/coe828.html

- **Key Knowledge to Be Acquired**
  This course introduces the fundamental algorithms for Very Large Scale Integration (VLSI) system design automation. In particular, design automation algorithms for Field Programmable Gate Array (FPGA) systems are discussed in detail. The concepts covered include the structure of FPGAs, clustering and partitioning algorithms, placement algorithms and routing algorithms. Area and Performance modelling methodology for FPGAs and Application Specific Integrated Circuit (ASICs) will also be discussed in detail.

- **Key Skills to Be Mastered**
  Building large CAD systems for VLSI system design automation. Modeling techniques for efficiently measure the area, performance, and power efficiency of VLSI systems in CAD.

- **Potential Careers**
  Software engineers specialized in VLSI CAD design, Integrated circuit engineers, Digital hardware design engineers, embedded systems engineers, ...

- **Potential Employers**
  Advanced Micro Devices, Cadence Design Systems, Synopsys Inc., Xilinx Inc., Altera Corporation, Lattice Semiconductor ...

- **Graduate Studies**
  UBC, Ryerson, Toronto, Waterloo, McGill, etc., have strong graduate programs in VLSI system design automation.