

ELE804 – Radio-Frequency Circuits and Systems

- **Course Outline**

<http://www.ee.ryerson.ca/undergraduate/dcd/ele804.html>

- **Key Knowledge to Be Acquired**

Historical perspective of cellular wireless communications, modulation schemes for wireless communications, characterization of RF circuits, architecture of RF transceivers (Heterodyne, zero-IF, low-IF), low-noise amplifiers, mixers, RF filters, frequency synthesizers, power amplifiers, and electromagnetic compatibility.

- **Key Skills to Be Mastered**

Computer-aided design (CAD) tools from Cadence Design Systems and HP for design and analysis of radio-frequency integrated circuits and systems. CAD tools for radio-frequency circuit 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-Motion, ST Microelectronics, Snowbush IP, Zarlink Semiconductors, ...

- **Graduate Studies**

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