Course Outline

http://www.ee.ryerson.ca/undergraduate/dcd/ele714.html

Key Knowledge to Be Acquired

Fault modeling, fault analyses, test pattern generation, test response analysis, and design techniques for better testability of digital circuits at various levels, such as gate-level and transistor level. Both combinational and sequential designs are studied. Reed-Muller technique, scan-design techniques, and LFSR (Linear Feedback Shift Register) techniques are among design techniques used to improve testability. Digital system design and testing. DC power lines, Memory testing, and Input/Output testing. Built-in self-test techniques. Scan techniques. Hardware/Software testing in Digital Designs.

Key Skills to Be Mastered

Mathematical and structural approaches to testing. This course is much similar to calculus I and II coupled with elementary courses on digital circuits and transistor level designs. It helps see circuits from their testability properties and design for better ones.

Potential Careers

Test Engineers, integrated circuit engineers, electronics system engineers, system integration engineers, instrumentation engineers, embedded systems engineers,…

Potential Employers


Graduate Studies

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