

**CEN 415: Introduction to VLSI Design**

- Credit Hours (Lectures, Lab, Tutorial): 3 (3 + 0 + 1).
- Prerequisites: CEN 313, EE 311.

**Courses content:** Large-scale MOS design: MOS transistors, static and dynamic MOS gates, stick diagrams, programmable logic array design, MOS circuit fabrication, design rules, resistance and capacitance extraction, power and delay estimates, scaling, MOS combinational and sequential logic design, register and clocking schemes, memory, data-path, and control unit design. Elements of computer-aided circuit analysis and layout techniques.