

Graduate International Pathway: Computer Engineering track

Course Options

- **EE 5103. Engineering Programming. (3-0) 3 Credit Hours.**
 - **Course description:** Prerequisite: Graduate standing or consent of instructor. Object oriented programming for engineering design problems using C++; software development for mathematical modeling and simulation of hardware systems; extraction and reporting (e.g., text processing) using scripting languages such as Perl; and individual class projects.
 - **Semesters available:** Spring.

- **EE 5113. VLSI System Design. (3-1) 3 Credit Hours.**
 - **Course description:** Prerequisite: Graduate standing or consent of instructor. VLSI Circuit Design, CMOS technology and device modeling, structured digital circuits, VLSI systems; computer-aided design tools, placement, routing, extraction, design rule checking, graphic editors, simulation, verification, minimization, silicon compilation, test pattern generation, theory for design automation, and chip design. (Formerly EE 5323 Topic 1: VLSI I. Credit cannot be earned for both EE 5113 and EE 5323 VLSI I.)
 - **Semesters available:** Fall.

- **EE 5123. Computer Architecture. (3-0) 3 Credit Hours.**
 - **Course description:** Prerequisite: Graduate standing or consent of instructor. Description of digital computer systems, arithmetic algorithms, central processor design, memory hierarchies and virtual memory, control unit and microprogramming, input and output, coprocessors, and multiprocessing.
 - **Semesters available:** Fall, spring.

- **EE 5193. FPGA and HDL. (3-0) 3 Credit Hours.**
 - Prerequisite: Graduate standing or consent of instructor. Fundamental digital systems principles. HDL modeling concepts and styles: structural, RTL, and behavioral; modeling for synthesis and verification; modeling combinatorial and sequential logic circuits; modeling finite state machines; testbench developments; performance estimation and improvement. (Formerly EE 5223 Topic 2: FPGA and HDL. Credit cannot be earned for both EE 5193 and EE 5223 FPGA and HDL.)
 - **Semesters available:** Summer.