

COMPUTER ENGINEERING (ENGC)

ENGC 299 Internship 0 Credit Hour(s)

Professional-supervised experience in first-hand internship opportunities. Application procedures processed through the Career Center. Must apply semester prior to internship.

Registration Restrictions: Sophomore status, 2.00 GPA, two courses in major, declared major, not more than one CSER behind

Offered: Resident

ENGC 301 Introduction to Embedded Systems 3 Credit Hour(s)

Prerequisite: CSIS 112 and ENGE 201

Design of microcontroller-based embedded systems; interfacing from both a hardware and software perspective; and applications, including audio, data acquisition, and communication systems.

Offered: Resident

ENGC 361 Computer Architecture 3 Credit Hour(s)

Prerequisite: ENGE 201

Introduction to architecture and organization of computer systems. Topics include data and instruction representation, arithmetic and logical operations, processor and memory implementations, memory hierarchy (cache, main memory and secondary memory), simple pipelines and hardware applications of OS functions.

Offered: Resident

ENGC 371 Embedded and Real-Time Systems Design 3 Credit Hour(s)

Prerequisite: ENGC 301

This course will provide an introduction to the principles of real-time and embedded systems, the main components and design consideration.

This course covers Embedded microcomputer systems; implementation of multitasking, synchronization, protection, and paging; operating systems for embedded microcomputers; design, optimization, evaluation, and simulation of digital and analog interfaces; real-time microcomputer software; applications, including data acquisition and control.

Offered: Resident

ENGC 401 Advanced Embedded Systems Design 3 Credit Hour(s)

Prerequisite: ENGC 361 and ENGC 371 and CSIS 215

The course provides an in-depth coverage of systematical development and synthesis of advanced embedded systems with emphasis on Field Programmable Gate Array (FPGA) and SoC technologies. The course will cover digital hardware system design, digital arithmetic, SoC design, high level synthesis and functional verification; minimum grade of C.

Offered: Resident

ENGC 465 Introduction to Computer Networks 3 Credit Hour(s)

Prerequisite: ENGE 341

Emphasis is placed on network transport services and key protocols to include TCP, IP, and UDP. Topics include application of network design and implementation of robust performance based computer networks, and an introduction to wireless and mobile networks. (Elective)

Offered: Resident

ENGC 497 Special Topics in Computer Engineering 3 Credit Hour(s)

Selected topics in various areas of Computer Engineering. May be repeated for credit when topic varies.

Offered: Resident

ENGC 499 Computer Engineering Internship 3-6 Credit Hour(s)

Placement in a computer or related organization for a controlled learning experience within the student's career specialization area. Applications are processed through the department Faculty Intern Advisor. Applicants must apply the semester prior to starting the internship.

Offered: Resident