

TRUSTED AND ASSURED MICROELECTRONIC SOLUTIONS (TAMS)

TAMS 300, SECURE PROGRAMMING PRINCIPLES AND PRACTICES FOR SYSTEMS DEVELOPMENT 4 (6)

This course covers development and deployment of secure computer programs in C and C++. Students learn common programming errors that lead to disruptive software vulnerabilities and reduced system robustness and security. Students will conduct in-depth analysis of program code to discover the vulnerabilities and implement mitigation strategies to reduce and eliminate system exploitation.

General Education: GE01, GE02, GE04

Typically Offered: Fall Semester

TAMS 351, MICROCONTROLLER HARDWARE DESIGN & PROGRAMMING 4 (6)

A course on the design, development, manufacturing, and programming of printed circuit boards with microcontrollers. Students will design a printed circuit board (PCB) with a microcontroller and associated high-speed data transmission/storage components, observe how a microcontroller is manufactured, and program the microcontroller for operation in a cyber secure environment as well as discuss principles of hardware safety. Lab required. (A special fee will be assessed)

General Education: GE02

Course Entry Requirement(s): Prerequisite: ELCT 221 and MEMS 311

Typically Offered: Fall and Spring Semesters

TAMS 415, PRINCIPLES OF LABVIEW 4 (6)

This course teaches a student the fundamental principles of programming LabVIEW software as well as in-circuit testing and fixture creation. Students will learn to use LabVIEW software to test and measure electrical circuit signals while learning how to apply this program to a circuit test fixture to be built in class. Lab Required (A special lab fee will be assessed).

General Education: GE02

Course Entry Requirement(s): Prerequisite: ELCT 234 and MEMS 322

Typically Offered: Fall and Spring Semesters