Computer Engineering Technology - CPS (CET)

Courses

CET 1990. Elective. (1-4 Hours)
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

CET 2100. Essentials of Computer Organization. (3 Hours)
Covers the structure and organization of computing systems. Topics include basic computer architecture, CPU and arithmetic-logic unit design, the datapath, input/output methods, memory management including caches and virtual memory, storage, instruction execution, assembly programming and assemblers, instruction formats, addressing modes, peripherals and interfacing, interrupts, and an introduction to operating systems and compilers.

CET 2200. Data Structures and Algorithms. (3 Hours)
Covers the design, analysis, and implementation of data structures and algorithms to solve engineering problems using an object-oriented programming language. Topics include elementary data structures (including arrays, stacks, queues, and lists); advanced data structures (including trees and graphs); the algorithms used to manipulate these structures; and their application to solving practical engineering problems.

Prerequisite(s): ALY 2100 with a minimum grade of D- or GET 2100 with a minimum grade of D- or ITC 2100 with a minimum grade of D-

CET 2210. Industrial Robotics. (3 Hours)
Introduces basic robotics concepts including frame geometry, coordinate systems, control systems, programming options, and safety procedures. Studies how to create, modify, and execute operational programs; recover from common program and robot faults; monitor, force, and simulate input and output signals; how to operate a teach pendant; and consider end-of-arm tooling.

CET 2990. Elective. (1-4 Hours)
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

CET 3100. Computer Networking and Communications Technology. (3 Hours)
Covers the technical foundation for designing, installing, maintaining, and monitoring computer networks. Covers technologies, protocols, and techniques used to connect computers to other computers and hardware components. Topics include the Open Systems Interconnection network model (OSI), internet protocols (TCP/IP), the User Datagram Protocol (UDP), Local Area Networks (LANs) and Wide Area Networks (WANs), wireless networks, network security, virtual private networking, and network management. Covers both circuit-switched and IP-based communications.

Prerequisite(s): CET 2100 with a minimum grade of D- ; GET 2100 with a minimum grade of D-

CET 3990. Elective. (1-4 Hours)
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

CET 4210. Robotics. (3 Hours)
Studies how to deploy robots in an existing manufacturing or processing environment. Examines how to design, integrate, and operate robots to improve productivity and safety. Offers students an opportunity to obtain an overall understanding of robotics from the point of view of the operator, technician, designer, and engineer. Reviews the history of robots, the various types of robots, and their applications. Robots rely on feedback from a variety of sensors, vision cameras, and other input devices to learn about their environment and react accordingly based on the system information. Investigates how mechanical, electrical, and software components all work together to perform a specific task.

Prerequisite(s): CET 2100 with a minimum grade of D- ; EET 3100 with a minimum grade of D- ; EET 3300 with a minimum grade of D-

CET 4950. Seminar. (1-4 Hours)
Offers an in-depth study of selected topics.

CET 4955. Project. (1-4 Hours)
Focuses on in-depth project in which a student conducts research or produces a product related to the student's major field. May be repeated without limit.

CET 4983. Topics. (1-4 Hours)
Covers special topics in computer engineering technology. May be repeated without limit.

CET 4990. Elective. (1-4 Hours)
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

CET 4991. Research. (1-4 Hours)
Offers students an opportunity to conduct research under faculty supervision.

Attribute(s): NUpath Integration Experience

CET 4992. Directed Study. (1-4 Hours)
Offers independent work under the direction of members of the department on a chosen topic.

CET 4994. Internship. (1-4 Hours)
Provides students with an opportunity for internship work.

Attribute(s): NUpath Integration Experience

CET 4995. Practicum. (1-4 Hours)
Provides eligible students with an opportunity for practical experience.

CET 4996. Experiential Education Directed Study. (1-4 Hours)
Draws upon the student's approved experiential activity and integrates it with study in the academic major.

Attribute(s): NUpath Integration Experience