

COMPUTER ENGINEERING (CPE)

NOTE: All prerequisites for Computer Engineering (CPE) courses must be completed with a grade of "C-" or better.

Computer Engineering (CPE) Courses

CPE 2073. Introduction to Computer Programming for Engineers. (3-1) 3 Credit Hours.

Prerequisite: MAT 1213 (or MAT 1214 in previous catalogs), and completion of or concurrent enrollment in MAT 1223 (or MAT 1224 in previous catalogs) or EGR 1333. Algorithmic approach to problem solving, basic programming techniques such as conditional execution (e.g., if-else), repetition (loops), and functions, implicit and explicit memory management, and intro to object oriented programming. One hour of problem solving recitation per week. Generally offered: Fall, Spring. Course Fee: LRE1 \$25; STSE \$30.

CPE 4812. Computer Engineering Design I. (2-1) 2 Credit Hours.

Prerequisite: EE 3563 and concurrent enrollment in or completion of EE 3233 and EE 4113. Business planning and project management in engineering design; discussion of ethical and social issues in design; and selection of a design project, development of a detailed design proposal, and approval of a design project. (Formerly CPE 4811. Credit cannot be earned for both CPE 4812 and CPE 4811.) This course has Differential Tuition. Course Fee: DL01 \$50.

CPE 4813. Computer Engineering Design II. (2-3) 3 Credit Hours.

Prerequisite: CPE 4812. Complex system design; advanced ATE; project management, detailed design package, status reporting, formal oral and written technical reports, design reviews, and test plan development and execution; open-ended design project considering safety, reliability, environmental, economic, and other constraints; and ethical and social impacts. Generally offered: Fall, Spring. This course has Differential Tuition. Course Fee: DL01 \$75.

CPE 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisite: Permission in writing (form available) from the instructor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. This course has Differential Tuition. Course Fee: LRE1 \$25; STSE \$10.

CPE 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisite: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. This course has Differential Tuition. Course Fee: LRE1 \$25; STSE \$20.

CPE 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. This course has Differential Tuition.

CPE 4953. Special Studies in Computer Engineering. (3-0) 3 Credit Hours.

Prerequisite: May vary with the topic (refer to the course syllabus on Bluebook or contact the instructor). An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Topics may include the following: Topic 1: Computer and Networking Security; Topic 2: IoT Security; Topic 3: AI in Networked Systems; Topic 4: Embedded System Design; Topic 5: Superscalar Systems; Topic 6: Engineering Programming I; Topic 7: Engineering Programming II; Topic 8: Engineering Algorithms; Topic 9: Cloud Computing for Engineers; Topic 10: AI Hardware and Programming. May be repeated for credit as topics vary. (Same as EE 4953. Credit cannot be earned for both EE 4953 and CPE 4953.) This course has Differential Tuition.