

Computer Engineering (Computer Systems), PhD

Prerequisite Courses

Deficiency coursework completed with a grade of "C" or better at the undergraduate level satisfies the requirements. A grade of "B" or better is required for all assigned deficiency coursework at the post-baccalaureate level.

CSE 230 COMPUTER ORGANIZATIONS AND ASSEMBLY LANGUAGE PROGRAMMING

Register-level computer organization. Instruction set architecture. Assembly language. Processor organization and design. Memory organization. IO programming, Exception/interrupt handling.

Prerequisite(s): CSE 100, CSE 110, CSE 120, or EEE 120

CSE 310 DATA STRUCTURES AND ALGORITHMS

Advanced data structures and algorithms, including stacks, queues, trees (B, B+, AVL), and graphs. Searching for graphs, hashing and external sorting.

Prerequisite(s): CSE 220 or CSE 240; and MAT 243

MAT 243 DISCRETE MATH

Logic, sets, functions, elementary number theory and combinatorics, recursive algorithms, and mathematical reasoning, including induction. Emphasizes connections to computer science.

Prerequisite(s): MAT 210, MAT 251, MAT 265 or MAT 270

MAT 265 CALCULUS I

Introduces matrices, systems of linear equations, determinants, vector spaces, linear transformations, and eigenvalues. Emphasizes development of computational skills.

Prerequisite(s): MAT 170 or 171

MAT 266 CALCULUS II

Linear equations, matrices, determinants, vector spaces, bases, linear transformations and similarity, inner product spaces, eigenvectors, orthonormal bases, diagonalization, and principal axes.

Prerequisite(s): MAT 265 or 270