

## Computer Science (CPS)

### CPS 202 Discrete Structures (Also MAT 125)

IAI – CS 915, IAI – M1 905

3 Hours

Prerequisites: MAT 107 OR MAT 108 OR MAT 111 with a grade of “C” or higher or assessment

3 hours weekly (3-0)

This course is a general education mathematics course which fulfills 3 hours of the core curriculum mathematics requirement. Topics include number systems, sets, relations and functions, logic, Boolean algebra, elementary matrix operations, combinations, permutations, counting techniques, and basic concepts of probability, graphs, and trees.

**This course is ordinarily offered in the fall semester in odd numbered years.**

### CPS 206 Computer Science I

IAI – CS 911

4 Hours

Prerequisites: MAT 055 with a grade of “C” or higher.

5 hours weekly (3-2)

The first in a sequence of courses for majors in Computer Science, Mathematics, and Engineering. Introduces a disciplined approach to problem-solving and algorithm development in addition to an introduction to procedural and data abstraction. Covers: selection, repetition, and sequence control structures; program design, testing, and documentation using good programming style; block-structured high-level programming languages; and arrays, records, and files utilizing a popular, high-level programming language.

### CPS 215 Computer Science II

IAI – CS 912

4 Hours

Prerequisites: CPS 206 with a grade of “C” or higher or consent of instructor

5 hours weekly (3-2)

The second in a sequence of courses for majors in Computer Science. Covers: design and implementation of large-scale problems; abstract data types; data structures (files, sets, pointers, lists, stacks, queues, trees, graphs; program verification and complexity; recursion; dynamic concepts (memory, scope, block structures); text processing; and an introduction to searching and sorting algorithms utilizing a popular, high-level programming language. **This course is offered in the fall semester only.**