

Course Syllabus

COURSE TITLE: Data Structures

COURSE PREFIX AND NUMBER: CSCI 3400

HOURS: 3-0-3

PREREQUISITES: CSCI2302 (Principles of Computer programming II)

COREQUISITE: CSCI3030

CORE AREA: Used in major

REQUIRED OR ELECTIVE: Required

USED IN PROGRAM(S): Computer Science major and minor

COURSE DESCRIPTION: A study of the techniques for the representation and manipulation of structured data within a digital computer. Programming assignments illustrating a variety of data structures

LEARNING OUTCOMES: Students will be able to choose among a variety of implementations for various kinds of problems they will encounter in their professional lives. Students will have a clear idea of the data structures and algorithms available to solve these problems.

OBJECTIVES: To prepare students to make decisions about the most efficient methods of problem solving in terms of time, space, and correctness.

TEXT: C++ An Introduction to Data Structures, Larry Nyhoff

OUTLINE:

Asymptotics

Arrays

Review of Basic Structures

Templates and the STL

Trees and Their Uses

Graphs and Graph Processing