Bemidji State University

CS 2321: Computer Science I

A. COURSE DESCRIPTION
   Credits: 4
   Lecture Hours/Week: *.*
   Lab Hours/Week: *.*
   OJT Hours/Week: *.*
   Prerequisites: None
   Corequisites: None
   MnTC Goals: None

   Introduction to the basic principles of software development using a modern high-level language, including using selection, looping, function calls, and recursion, along with simple data structures such as arrays and objects, to solve problems. Includes an introduction to software engineering techniques such as interactive debugging, software testing, and methods of software validation. Includes a two-hour lab.
   Prerequisite: CS 1309; MATH 1170 or MATH 1470 or higher.

B. COURSE EFFECTIVE DATES: 08/20/1997 - Present

C. OUTLINE OF MAJOR CONTENT AREAS
   1. The Study of Computer Science
   2. Beginnings
   3. Control
   4. Algorithms and Program Development
   5. Working with Strings
   6. Functions -- Quickstart
   7. Lists and Tuples
   8. More on Functions
   9. Dictionaries and Sets
   10. Files
   11. More Program Development
   12. Introduction to Classes
   13. More on Classes
   14. Program Development with Classes
   15. Exceptions and Exception Handling
   16. Testing
   17. Recursion: Another Control Mechanism

D. LEARNING OUTCOMES (General)
   1. learn problem solving within the context of CS1 to both majors and nonmajors using python
   2. be provided examples of developing programs focusing on the kinds of data analysis problems students might ultimately face
   3. be given a practical foundation in programming, enabling them to produce useful, meaningful results in their respective fields of study.
E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted