SOUTHEAST MISSOURI STATE UNIVERSITY

DEPARTMENT OF  Computer Science                     COURSE NO.  CS250

TITLE OF COURSE  Computer Science III               REVISION  2/2000

I. CATALOG DESCRIPTION AND CREDIT HOURS OF COURSE: Continued study of data structures, algorithms, object orientation, and standard libraries with an emphasis on practical programming. Prerequisite(s): CS165 with a minimum grade of C. (3)

II. PREREQUISITE(S): CS165 Computer Science II with a minimum grade of C.

III. PURPOSE OR OBJECTIVES OF THE COURSE:

A. To gain a working knowledge of object oriented programming including inheritance and polymorphism.
B. To gain a working knowledge of trees, graphs, hash tables and related algorithms.
C. To be able to use the standard libraries effectively.
D. To gain extensive practice in writing more complex programs.

IV. EXPECTATION OF STUDENTS: Students are expected to demonstrate achievement of the above objectives on examinations and especially on lab assignments.

V. COURSE CONTENT OR OUTLINE (class periods):

A. Review of vectors, stacks, deques and linked lists. (6)
B. Sorting techniques and analysis (6)
C. Advanced topics of object oriented programming, inheritance and polymorphism. (9)
D. Tree and graph algorithms (9)
E. Hash Tables (6)
F. Standard Library applications (9)
G. Exams (3)
VI. TEXTBOOK(S) AND OTHER REQUIRED MATERIALS OR EQUIPMENT:


B. Reference textbooks and periodicals:
   1. C++ An Introduction to Data Structures by Larry Nyhoff.
   2. STL for C++ programmers by Leen Ammeraal.

VII. BASIS FOR STUDENT EVALUATION

A. Programming Assignments (20 – 40%)

B. Examinations (including the final exam) (60 – 80%)

C. Class Participation (5 – 15 %)