



COMMON COURSE OUTLINE: Course discipline/number/title: COMP 2243: Introduction to Programming and Problem Solving

A. CATALOG DESCRIPTION

1. **Credits:** 4
2. **Hours/Week:** 4
3. **Prerequisites (Course discipline/number):** MATH 1115, COMP 1150 [with permission of instructor, COMP 2243 may be taken concurrently with one of these classes]: college level reading.
4. **Co-requisites (Course discipline/number):** None
5. **MnTC Goals (if any):** NA

A course for computer science majors to introduce the major concepts of problem solving, algorithm design, and programming. Algorithm development, analysis, and refinement. Top-down and object-oriented program development concepts. Simple and composite data types, classes, and control structures including selection, iteration, and subprograms. Java programming language will be used beginning Fall 2000. **RECOMMENDED ENTRY SKILLS/KNOWLEDGE:** Basic computer literacy, College algebra Exposure to concepts of data representation, logic, and algorithms and in Comp 1150.

B. DATE LAST REVISED (Month, year): March, 1997

C. OUTLINE OF MAJOR CONTENT AREAS:

1. Problem solving approaches
2. Program development process
3. Input and Output Arithmetic
4. Expressions Logical and relational expressions
5. Selection control structures
6. Looping control structures
7. Subprograms
8. Simple data types

D. LEARNING OUTCOMES (GENERAL): The student will be able to:

1. Design algorithms using stepwise refinement.
2. Document algorithms using flowcharts or pseudo code.
3. Write and document programs using simple data types, arrays and records input and output from keyboard/screen and files sequential, selection, and looping control structures subprograms.
4. Compile, link and run programs.
5. Test and debug programs.

E. LEARNING OUTCOMES (MNTC):

F. METHODS FOR EVALUATION OF STUDENT LEARNING:

1. Tests
2. Programming assignments
3. Comprehensive final test

G. SPECIAL INFORMATION (if any): None