MESABI RANGE COMMUNITY & TECHNICAL COLLEGE – VIRGINIA/EVELETH

Course Outline

Course Title:	**Computer Science I**	**Submitted By:**	**R. Booth**
Semester Course Prefix and Number:	**CSCI 2481**	**Approval Date:**	**August 2004**
Old Quarter Course Prefix and Number:		**Revision Date:**	**April 2004**

Number of Credits:	**4**	**Number of Lecture Credits:**	**4**
Semester(s) Offered:		**Number of Lab Credits:**	**Number of Lab Hours:**
Negotiated Class Size:	**24**	**Number of Studio/Demonstration/Internship Credits:**	

Course Purpose Code:

_____ **0 –** Developmental Courses
_____ **1 –** Non-transferable, General Education
_____ **2 –** Technical course related to career programs
_____ **3 –** College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
__X__ **4 –** Other college course not considered a part of general education (MNTC) e.g. computer science, health, physical education
_____ **5 –** Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements.
_____ **9 –** Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description:
This course introduces the advantages of object oriented programming (OOP) using C++. It compares procedural programming concepts with OOP. Students learn to use an integrated editor/compiler. Students learn about control structure, data structures, and advanced topics such as class templates and recursion.

Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s):	CSCI 2471, C Language, MATH 1511, Foundations of Mathematics I or MATH 1521, College Algebra
Reading Prerequisite:	None
Composition Prerequisite:	None
Mathematics Prerequisite:	None

Career Programs and Transfer Majors Accessing this Course:
Computer Science majors
Computer Programming

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable: Notes: No more than two goals may be met by any one course. (Curriculum Committee review and the Chief Academic Officer's approval are required).

0. None

6. _____ The Humanities and Fine Arts

1. _____ Communications
2. _____ Critical Thinking
3. _____ Natural Sciences
4. _____ Mathematical/Logical Reasoning
5. _____ History and the Social and Behavioral Sciences
7. _____ Human Diversity
8. _____ Global Perspectives
9. _____ Ethical and Civic Responsibility
10. _____ People and the Environment

Learning outcomes, including any relevant competencies listed in the Minnesota Transfer Curriculum:
The student will define algorithms using the C++ language of symbols and key words in order to:
1. clearly express logical ideas in writing the project plan.
2. explain what constitutes a valid logical argument (proof).
3. apply higher-order problem-solving and/or modeling strategies.
4. defined functions..
5. perform selection, repetition.
6. create input/output.
7. use vectors and matricies.
8. define user-defined classes and templates.
9. perform recursion, sorting and searching.

Student assessment methods:
Lab exercises
Unit exams
CATs

Use of instructional technology (includes software, interactive video and other instructional technologies):
A computer with Microsoft C++ 6.0.

Outline of the major course content:
Review of basic concepts
Control structures, functions, selection, repetition
Data structures, files, vectors and matricies
Advanced topics, classes, templates, and recursion

Additional special information (special fees, directives on hazardous materials, etc.)

Transfer Information: (Please list colleges/majors that accept this course in transfer.)

Approvals:

Body	Representative Signatures	Date
Curriculum Committee	Donnie Gordon	

Faculty Association	Roger Hoffman	
Meet and Confer		
Chief Academic Officer	Dr. Tina Royer	8-09-04

Distribution: Original – Administrative Office, Library, Learning Center, Records, Student Services, Curriculum Committee Chair