A. Course Description

Credits: 4

Prerequisites: MATH 215 Discrete Mathematics students must have previous programming experience in C, C++, or C#.

Lab Hours/ Weeks: Corequisites: None

Lecture Hours/ Week:

MnTC Goals: None

This accelerated programming and design course covers the material in both ICS 140 Programming Fundamentals and ICS 141 Programming with Objects during a single semester. It is designed for students who have experience programming in C, C++, or C#, but who need to learn the Java language. See the descriptions of ICS 140 and ICS 141 for a list of topics covered. Majors can substitute this course for ICS 141 Programming with Objects. Credit is not given for more than one of ICS 141 Programming with Objects, or ICS 180 Java for Transfer Students.

B. Course Effective Dates: 08/24/2002 - 12/16/2009 12/17/2009 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Create, compile, test, and debug Java programs using an Integrated Development Environment (such as Eclipse).
2. Employ standard Java coding conventions, proper programming style, and appropriate documentation conventions.
3. Apply inheritance, information hiding, and polymorphism to solve problems.
4. Design and implement object-oriented applications based on problem statements.
5. Apply stepwise refinement, design techniques, and the Unified Modeling Language (UML).
6. Use event handling, Graphical User Interface (GUI) gadgets and layout managers to create friendly user interfaces and applications.
7. Develop applications that process data from multiple external streams.
8. Develop robust programs using exception handling.
9. Use the concepts of computer hardware and software in the creation of programs (such as use of their knowledge of ASCII code).

E. Learning Outcomes (MN Transfer Curriculum)

This contains no goal areas.

F. Special Information

Note: Students are responsible to both be aware of and abide by prerequisites for ICS courses for which they enroll, and will be administratively dropped from a course if they have not met prerequisites.