Normandale Community College
Common Course Outline

I. EFFECTIVE DATE OF OUTLINE
Fall Semester, 2016. To be reviewed by department annually.

II. CATALOG DESCRIPTION
   A. COMT 2250
   B. Object-Oriented Programming with Java
   C. 4 Credits
   D. Fall Semester
   E. Prerequisite: CSCI 1101 – Introduction to Computing and Problem Solving and
        COMT2188 – Systems Analysis and Design
   F. This course enables students to learn Object Oriented Programming principles using the
      Java Programming Language. Students will become familiar with Java techniques that
      are widely used in the industry, including best practices for the implementation of
      component based software architecture.

III. RECOMMENDED ENTRY SKILLS/KNOWLEDGE
The student should be familiar with basics of computer technology, software programming
and problem solving.

IV. OUTLINE OF MAJOR CONTENT AREAS (TOPICS)
   • Fundamental programming structure in Java
   • Classes and Objects in Java
   • Object Design and Programming with Java
   • Design Patterns and Java

V. LEARNING OUTCOMES
Upon successful completion of COMT 2250, students will be able to:
   1. Understand the "compile once, run many" paradigm. Tools for compiling, interpreting,
      and debugging Java programs
   2. Understand the concepts, syntax, and semantics for classes, methods and Attributes
   3. Apply Class specialization through extension and Inheritance of implementation
   4. Utilize Polymporphism, Overriding methods in subclasses.
   5. Master the Object class with comparing objects for reference and value equality.
   6. Master Arrays and strings as objects. How to create instances of each.
   7. Use Java Interface specialization through the definition and implementation of interfaces.
   8. Learn basic Java data structure classes in the java.util package
   9. Understand Java package as a mechanism for name scoping and access control.
   10. Understand Exceptions; Checked versus unchecked exceptions; throwing exceptions.
   11. Understand the concept of threads (versus processes) and Applets
   12. Understand most common design patterns, including the Observer pattern.

VI. METHODS USED FOR EVALUATION OF STUDENT LEARNING
The instructor will choose among various classroom evaluation methods including, but not
limited to, in-class testing, take-home testing, assignments, quizzes, attendance, group or
individual projects, peer evaluation, and research. The instructor will also choose a method
for end-of-the-semester evaluation.