Agenda Item #06-46
Effective Fall 2007
Effective Fall 2016, with revisions

Eastern Illinois University
Revised Course Proposal
MIS 3330, Java Programming

1. Catalog description
   1. Course number: MIS 3330
   2. Title: Java Programming
   3. Meeting times and credit: 3-0-3
   4. Term(s) to be offered: F
   5. Short title – Java
   6. Course description – A study of object oriented programming using the Java language. Includes program structure, data types, operators, input/output statements, arrays and the Swing components of the graphical interface. Emphasizes the development of objects, including the concepts of polymorphism, encapsulation and inheritance.
   7. Prerequisite(s): MIS 2000 or MAT 2170, or permission of the Associate Chair, School of Business.
   8. Initial term of course offering: FA2007.

2. Student Learning Objectives and Evaluation

A. Upon successful completion of this course, students will be able to:
   1. Design, code, debug and document objected oriented programs using the java language
   2. Create sequence, decision and looping constructs in java.
   3. Write and implement programmer-defined classes and methods
   4. Describe and demonstrate object oriented programming language requirements including the concepts of polymorphism, encapsulation and inheritance.
   5. Implement sorting and searching algorithms in java
   6. Experiment with the graphical user interfaces in java with emphasis on the various components, listeners and layouts.

B. The students' achievement of the stated objectives will be assessed and grades will be earned on the basis of examinations, programming projects, in-lab exercises, homework assignments and quizzes.

	Exams (50%)	Programming assignments (30%)	Final Exam (20%)
Design, code, debug and document objected oriented programs using the java language	X	X	X
Create sequence, decision and looping constructs in java.	X	X	X
write and implement programmer-defined classes and methods	X	X	X
Describe and demonstrate object oriented programming language requirements including the concepts of polymorphism, encapsulation and inheritance.	X	X	X
Implement sorting and searching algorithms in java	X	X	X
Experiment with the graphical user interfaces in java with emphasis on the various components, listeners and layouts.	X	X	X

C. This is not a technology delivered class.
D. This class is not numbered 4750-4999
E. This class is not writing intensive.

3. Outline of the Course

Weeks	Topic
1.0	Introduction to course; Introduction to java; Software downloads; Compiling and executing
1.0	Data types, variables, operators, strings
0.5	Input/Output statements
1.5	Conditional statements and logical operators; short circuit processing
0.5	Iterative statements
1.5	Array processing including common algorithms such as largest, smallest, sorting
1.0	File processing: FileReader, BufferedReader, FileWriter, PrintWriter, BufferedWriter
2.0	Objects, classes and methods. Encapsulation. Static attributes and methods. Overloading. Images
1.0	Inheritance: Classes, superclasses and subclasses. Equals method, toString methds
1.0	Inheritances versus interfaces. Inner classes. Abstract methods.
2.0	Introduction to the graphical user interface: components, events and listeners
1.0	Layout managers: GridLayout, BorderLayout, FlowLayout
1.0	Tests

4. Rationale
   a) Purpose and need: This course combines two previous classes: CIS 3320 Business Programming with C and CIS 3900 Java Programming. Content of the courses requires modification because of changes in programming languages and methodology. The number has been changed so that it clearly sequences with the MIS 4330 Advanced Java Programming.
   b) Justification of the level of the course and of course prerequisites: The prerequisites to this course are MIS2000 Information Systems and Logic or MAT2170 Computer Science 1 because prior knowledge of programming is needed.
   c) Similarity to existing courses: This course replaces CIS 3320 and CIS 3900 which will be deleted upon approval of this course.
   d) Impact on Program(s): This class will be a required course in one concentration of the MIS major and an elective in the other options. It is an elective in the MIS minor.

5. Implementation
   a) Faculty member(s) to whom the course may be assigned. Garrett, Willems, Hampton.
   b) Specification of any additional costs to students: computer media..
   c) Core Java 2 (volume 1 – Fundamentals) by C.S. Horstmann and G. Cornell (Sun Microsystems, Inc., 2005). & Java: Practical Guide for Programmers by Z. M. Sikora (Morgan Kaufmann Publishers, 2003)

6. Community College Transfer

   A community college course will not be judged as equivalent to this course.

7. Date approved by the department or school: 2/16/06

8. Date approved by the college curriculum committee 3/6/06

9. Date approved by CAA 4/20/06