Faculty members are required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

DEPT.  CSCI                COURSE NUMBER:  2255

NUMBER OF CREDITS:  4      Lecture:  4      Lab:  0

Course Title:
Java Programming II

Catalog Description:
An intermediate to advanced study of Java as an object oriented programming language. Concepts include abstract data type with a Class, constructors, overloaded constructors, instance variable, final, superclasses, subclasses, inheritance, String class, constructors and methods, StringBuffer class, constructors and methods, Graphic Objects, Swing Components, Event Handling, Layout Managers, Exception Handling, Multithreading, Files and Streams.

FULFILLS MN TRANSFER CURRICULUM AREA(S)

Goal 1: Communication: ____ by meeting the following competencies:

Goal 2: Critical Thinking: ____ by meeting the following competencies:

Goal 3: Natural Sciences: ____ by meeting the following competencies:

Goal 4: Mathematics/Logical Reasoning: ____ by meeting the following competencies:

Goal 5: History and the Social and Behavioral Sciences: ____ by meeting the following competencies:

Goal 6: The Humanities and Fine Arts: ____ by meeting the following competencies:

Goal 7: Human Diversity: ____ by meeting the following competencies:

Goal 8: Global Perspective: ____ by meeting the following competencies:

Goal 9: Ethical and Civic Responsibility: ____ by meeting the following competencies:

Goal 10: People and the Environment: ____ by meeting the following competencies:

Prerequisites or Necessary Entry Skills/Knowledge:
CSCI2250
Topics to be Covered

- Classes and Objects
- Object-Oriented Programming: Inheritance
- Object-Oriented Programming: Polymorphism
- Exception Handling
- String, Characters and Regular Expressions
- Recursion
- Searching, Sorting and Big o
- Customer Generic Data Structures; ArrayList, Singlely Linked Lists, Class ListNode, ListTest, Stacks, Queues, Trees

Student Learning Outcomes

a) Create Enum data types and employ pointers and structures in program designs
b) Implement and use successfully in coding superclasses and subclasses with inheritance hierarchy, Protected variables and private instance variables
c) Demonstrate polymorphism coding, abstract classes and methods, final methods and classes
d) Describe and successfully use in coding Exception handling
e) Describe and use successfully in coding strings, characters and regular expressions
f) Use successfully in coding generic lists and collection methods
g) Explain through successful coding recursion concepts and compare examples of Fibonacci Series and Towers of Hanoi
h) Include successfully in coding projects algorithms of linear search, Big O notation, binary
i) Include successfully in coding projects sorting algorithms of selection, insertion and merge sort
j) Manipulate generic data structures successfully in coding linked lists, stacks queues and trees

Is this course part of a transfer pathway: Yes ☐ No ☒

Revised Date: May 2020