Washtenaw Community College Comprehensive Report

CPS 261 Advanced Java Concepts
Effective Term: Fall 2015

Course Cover
Division: Business and Computer Technologies
Department: Computer Instruction
Discipline: Computer Science
Course Number: 261
Org Number: 13400
Full Course Title: Advanced Java Concepts
Transcript Title: Advanced Java Concepts
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Course Change
Change Information:
    Consultation with all departments affected by this course is required.
    Course description
    Pre-requisite, co-requisite, or enrollment restrictions
    Outcomes/Assessment
Rationale: Updating prerequisite
Proposed Start Semester: Fall 2015
Course Description: This course is a continuation of the Java concepts covered in CPS 161. Topics covered include input/output, graphical user interfaces associated with AWT/Swing, data structures, networking, and multitasking (Threads). Students entering this class should have a good understanding of object-oriented programming concepts such as inheritance and polymorphism. The title of this course was previously Programming in Data Structures in Java.

Course Credit Hours
Variable hours: No
Credits: 4
Lecture Hours: Instructor: 60 **Student:** 60
Lab: Instructor: 0 **Student:** 0
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 60 **Student:** 60
Repeatable for Credit: NO
Grading Methods: Letter Grades
Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing
College-level Reading & Writing

College-Level Math
Requisites
Prerequisite
CPS 161 minimum grade "B-"

General Education
General Education Area 7 - Computer and Information Literacy

Assoc in Arts - Comp Lit
Assoc in Applied Sci - Comp Lit
Assoc in Science - Comp Lit

Request Course Transfer

Proposed For:
Eastern Michigan University

Student Learning Outcomes

1. Identify input/output techniques including the associated exception handling required.
   Assessment 1
   Assessment Tool: Multiple choice and short answer questions on a departmental exam
   Assessment Date: Fall 2016
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Departmental exam with fixed answers (multiple choice, fill in the blank, etc.).
   Standard of success to be used for this assessment: 70% of the students who take the exam will score 70% or better.
   Who will score and analyze the data: Departmental faculty

2. Identify graphical user interface (GUI) techniques needed to provide a good program interface for a user.
   Assessment 1
   Assessment Tool: Multiple choice and short answer questions on a departmental exam
   Assessment Date: Fall 2016
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Departmental exam with fixed answers (multiple choice, fill in the blank, etc.)
   Standard of success to be used for this assessment: 70% of the students who take the exam will score 70% or better.
   Who will score and analyze the data: Departmental faculty

3. Identify multitasking and socket programming techniques necessary to work in an internet driven world.
   Assessment 1
   Assessment Tool: Multiple choice and short answer questions on a departmental exam
   Assessment Date: Fall 2016
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Departmental exam with fixed answers (multiple choice, fill in the blank, etc.)
   Standard of success to be used for this assessment: 70% of the students who take the exam will score 70% or better.
   Who will score and analyze the data: Departmental faculty

4. Identify Java data structures and algorithms necessary for efficient programs such as trees, hashing and stacks.

Assessment 1

 Assessment Tool: Multiple choice and short answer questions on a departmental exam

 Assessment Date: Fall 2016

 Assessment Cycle: Every Three Years

 Course section(s)/other population: All

 Number students to be assessed: All

 How the assessment will be scored: Departmental exam with fixed answers (multiple choice, fill in the blank, etc.)

 Standard of success to be used for this assessment: 70% of the students who take the exam will score 70% or better.

 Who will score and analyze the data: Departmental faculty

5. Develop Java program with graphic user interfaces that include AWT/Swing, networking functions and multitasking.

 Assessment 1

 Assessment Tool: Programming Exercise

 Assessment Date: Fall 2016

 Assessment Cycle: Every Three Years

 Course section(s)/other population: All

 Number students to be assessed: Random sample of 25% of all students with a minimum of one full section

 How the assessment will be scored: Departmentally-developed rubric

 Standard of success to be used for this assessment: 70% of the students will successfully complete the exercise

 Who will score and analyze the data: Departmental faculty

Course Objectives

1. Demonstrate exception handling basics.
 Matched Outcomes
2. Demonstrate processing of text and binary files.
 Matched Outcomes
3. Use Java data structure classes such as stacks, queues, trees, hashing and iterators.
 Matched Outcomes
4. Analyze the complexity of algorithms in using the standard Java data structures such as stacks, queues, trees and hashing.
 Matched Outcomes
5. Create a good user interface using Java GUI classes.
 Matched Outcomes
6. Use Java multitasking and socket programming techniques.
 Matched Outcomes

New Resources for Course

Course Textbooks/Resources

Textbooks

 Savitch. *Absolute Java*, ed. Addison-Wesley, 2005

Manuals

Periodicals

Software

Equipment/Facilities

Level III classroom

Data projector/computer

Reviewer	Action	Date
Faculty Preparer:		
Clem. Hasselbach	*Faculty Preparer*	*Feb 19, 2015*

Department Chair/Area Director:
John Trame   *Recommend Approval*   *Feb 20, 2015*
Dean:
Kimberly Hurns   *Recommend Approval*   *Feb 25, 2015*
Vice President for Instruction:
Bill Abernethy   *Approve*   *Mar 26, 2015*