PERALTA COMMUNITY COLLEGE DISTRICT COURSE OUTLINE

COLLEGE:	Laney College	**STATE APPROVAL DATE:**	09/26/2010
ORIGINATOR:	Patrick McDermott	**STATE CONTROL NUMBER:**	CCC000439582
		BOARD OF TRUSTEES APPROVAL DATE:	06/14/2016
		CURRICULUM COMMITTEE APPROVAL DATE:	04/15/2016
		CURRENT EFFECTIVE DATE:	08/22/2016

DIVISION/DEPARTMENT: Laney College

1. REQUESTED CREDIT CLASSIFICATION:

Credit - Degree Applicable
Course is not a basic skills course.
Program Applicable

2. DEPT/COURSE NO:

CIS 036B

3. COURSE TITLE:

Java Programming Language II

4. COURSE: Laney Course Updating

TOP NO. 0707.10

5. UNITS: 4.00

HRS/WK LEC: 3.00 Total: 52.50
HRS/WK LAB: 3.00 Total: 52.50
HRS/WK TBA:

6. NO. OF TIMES OFFERED AS SELETED TOPIC: **AVERAGE ENROLLMENT:**

7. JUSTIFICATION FOR COURSE:

Java is a standard language for developing machine independent applications, which can operate over the Internet. This course requires CIS 36A as a prerequisite and is aligned with SUN certified course SL-275. This course can benefit those students and programmers who are preparing for the SUN Certified Programmer for the Java2 Platform Exam.

8. COURSE/CATALOG DESCRIPTION

Object-oriented program design using the java programming Language: Designing and programming with exceptions, threads, file input/output (I/O); networking and graphic classes; developing code using tools such as Java 2D API and SWING; and working with projects in areas such as animation.

9. OTHER CATALOG INFORMATION

a. Modular: No If yes, how many modules:
b. Open entry/open exit: No
c. Grading Policy: Both Letter Grade or Pass/No Pass
d. Eligible for credit by Exam: No
e. Repeatable according to state guidelines: No
f. Required for degree/certificate (specify):
Existing
g. Meets GE/Transfer requirements (specify):
Acceptable for credit: CSU, UC
h. C-ID Number: Expiration Date:

i. Are there prerequisites/corequisites/recommended preparation for this course? Yes
Date of last prereq/coreq validation: 04/15/2016

10. LIST STUDENT PERFORMANCE OBJECTIVES (EXIT SKILLS): (Objectives must define the exit skills required of students and include criteria identified in Items 12, 14, and 15 - critical thinking, essay writing, problem solving, written/verbal communications, computational skills, working with others, workplace needs, SCANS competencies, all aspects of the industry, etc.)(See SCANS/All Aspects of Industry Worksheet.)

Students will be able to:

1. Demonstrate an understanding of writing applications, applets, and combined applications/applets
2. Understand the class tree structures of Java packages
3. Use exception, event handling, and concurrency in programs
4. Understand and use graphic tools in Java such as Abstract Windowing Toolkit (AWT), SWING, and 2D API.
5. Learn and apply graphic tools in advanced Graphic User Interface (GUI)
6. Create graphics in selected areas of applications: animation, networking, etc.
7. Create multithreaded programs.
8. Create a simple Transmission Control Protocol/Internet Protocol (TCP/IP) client that communicates through sockets

SCANS Competencies:

1. SCANS Competencies:

Competency #3: Information

1. Competency #3: Information
2. Acquires and Evaluates Information
3. Organizes and Maintains Information
4. Interprets and Communicates Information
5. Uses Computers to Process Information

Competency #5: Technology

1. Competency #5: Technology
2. Selects Technology – chooses procedures, tools, or equipment, including computers and related technology

Skill #1: Basic Skills

1. Skill #1: Basic Skills
2. Reading – locates, understands, and interprets written information in prose and in documents such as manuals
3. Writing – communicates thoughts, ideas, information, and messages in writing; and creates flow charts and written solutions to computer problem
4. Arithmetic/Mathematics – performs basic computations and approaches practical problems by choosing appropriately from a variety of mathematical techniques
5. Listening – receives, attends to, interprets, and responds to verbal messages and other cues

Skill #2: Thinking Skills

1. Skill #2: Thinking Skills
2. Creative Thinking – generates new ideas; new ways of solving a problem, new ways of writing a solution to a computer problem.
3. Decision Making – specifies goals and constraints, generates alternative, considers risks, evaluates and chooses best alternative
4. Problem Solving – recognizes problems and devises and implements plan of action.
5. Reasoning – discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a computer problem.

11A. COURSE CONTENT: List major topics to be covered. This section must be more than listing chapter headings from a textbook. Outline the course content, including essential topics, major subdivisions, and supporting details. It should include enough information so that a faculty member from any institution will have a clear understanding of the material taught in the course and the approximate length of time devoted to each. There should be congruence among the catalog description, lecture and/or lab content, student

performance objectives, and the student learning outcomes. List percent of time spent on each topic; ensure percentages total 100%.

LECTURE CONTENT:

1. Applications, applets, applications/applets 10%
2. Java class tree structures 5%
3. Exception, event handling, concurrency 10%
4. File I/O 5%
5. Graphic tools: AWT, SWING, 2D API 25%
6. Applying graphics to advanced GUI 15%
7. Selected areas of applications 15%
8. Multithreading 10%
9. Networking 5%

11B. LAB CONTENT:

1. Creating applications, applets, combined applications/applets 10%
2. Examining Java class hierarchy 10%
3. Applying exception, event handling, and concurrency 10%
4. Practicing file I/O 10%
5. Applying graphic tools 20%
6. Practicing and applying multithreading 15%
7. Building networking screen and event 10%
8. Creating Internet server/client process 15%

12. METHODS OF INSTRUCTION (List methods used to present course content.)

1. Lab
2. Lecture
3. Observation and Demonstration
4. Projects
5. Discussion
6. Other (Specify)

Other Methods:
Computer lab exercises; Class projects and student presentations might also be included.

13. ASSIGNMENTS: 6.00 hours/week (List all assignments, including library assignments. Requires two (2) hours of independent work outside of class for each unit/weekly lecture hour. Outside assignments are not required for lab-only courses, although they can be given.)
Out-of-class Assignments:
1. Student will read assignments from textbook/handouts and write programs. 2. Students will work to design and develop solutions for the assignments prior to writing the code using Java and its tools. 3.00Assignments will resemble real world applications and might be used as class projects.

ASSIGNMENTS ARE: (See definition of college level):
Primarily College Level

14. STUDENT ASSESSMENT: (Grades are based on):
COMPUTATION SKILLS
NON-COMPUTATIONAL PROBLEM SOLVING (Critical thinking should be demonstrated by solving unfamiliar problems via various strategies.)
SKILL DEMONSTRATION
MULTIPLE CHOICE
ESSAY (Includes "blue book" exams and any written assignment of sufficient length and complexity to require students to select and organize ideas, to explain and support the ideas, and to demonstrate critical

thinking skills.)
OTHER (Describe):
Lab and programming assignments/exercises. Optional: class presentations, case study reports.

15. TEXTS, READINGS, AND MATERIALS

A. Textbooks:

Horstmann, Cay S. & Gary Cornell. 2013. *Core Java, Volume II--Advanced Features* 9th. Prentice Hall

Liang, Y. Daniel. 2011. *Introduction to Java Programming* 8th. Prentice Hall

NetBeans (7.2.1) [Software]. NetBeans & Oracle. Available as a free download: http://netbeans.org/

*Date is required: Transfer institutions require current publication date(s) within 5 years of outline addition/update.

B. Additional Resources:

Library/LRC Materials and Services:

The instructor, in consultation with a librarian, has reviewed the materials and services of the College Library/LRC in the subject areas related to the proposed new course

Are print materials adequate? Yes

Are nonprint materials adequate? Yes

Are electronic/online resources available? Yes

Are services adequate? Yes

Specific materials and/or services needed have been identified and discussed. Librarian comments: provide librarian with list of recent, recommended supplementary(non-textbook) titles to support the curriculum.

C. Readings listed in A and B above are: (See definition of college level):

Primarily college level

16. DESIGNATE OCCUPATIONAL CODE:
C - Occupational

17. LEVEL BELOW TRANSFER:
Y = Not Applicable

SUPPLEMENTAL PAGE

Use only if additional space is needed. (Type the item number which is to be continued, followed by "continued." Show the page number in the blank at the bottom of the page. If the item being continued is on page 2 of the outline, the first supplemental page will be "2a." If additional supplemental pages are required for page 2, they are to be numbered as 2b, 2c, etc.)

1a. Prerequisites/Corequisites/Recommended Preparation:
PREREQUISITE(S):

CIS 036A: Java Programming Language I
CIS 025: Object Oriented Programming Using C++

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