

CS 17.11 Course Outline as of Summer 2009**CATALOG INFORMATION**

Dept and Nbr: CS 17.11 Title: JAVA PROGRAMMING

Full Title: Java Programming

Last Reviewed: 1/24/2022

| Units | | Course Hours per Week | | Nbr of Weeks | Course Hours Total | |
|---------|------|-----------------------|------|--------------|--------------------|-------|
| Maximum | 3.00 | Lecture Scheduled | 2.00 | 17.5 | Lecture Scheduled | 35.00 |
| Minimum | 3.00 | Lab Scheduled | 0 | 14 | Lab Scheduled | 0 |
| | | Contact DHR | 3.50 | | Contact DHR | 61.25 |
| | | Contact Total | 5.50 | | Contact Total | 96.25 |
| | | Non-contact DHR | 0 | | Non-contact DHR | 0 |

Total Out of Class Hours: 70.00

Total Student Learning Hours: 166.25

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: CIS 17

Catalog Description:

Object-oriented programming principles, Java language constructs, the Java Developer's Kit class libraries, multi-threading, networking, GUI development, applets and applications.

Prerequisites/Corequisites:

Course Completion of CS 10A (or CS 10 or CIS 10 or CIS 10A or CIS 10 or BDP 10) OR Course Completion of CIS 20A

Recommended Preparation:

Completion of CS 50.11A (formerly CIS 58.51A or CIS 84.42A) OR CIS 58.31A (formerly CIS 84.44A); AND eligibility for ENGL 100 or ESL 100.

Limits on Enrollment:**Schedule of Classes Information:**

Description: Intended for students with previous programming experience. Topics include Object-oriented programming principles, Java language constructs, the Java Developer's Kit, class libraries, multi- threading, networking, GUI development, applets and applications. (Grade Only)

Prerequisites/Corequisites: Course Completion of CS 10A (or CS 10 or CIS 10 or CIS 10A or

CIS 10 or BDP 10) OR Course Completion of CIS 20A

Recommended: Completion of CS 50.11A (formerly CIS 58.51A or CIS 84.42A) OR CIS 58.31A (formerly CIS 84.44A); AND eligibility for ENGL 100 or ESL 100.

Limits on Enrollment:

Transfer Credit: CSU;UC.

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

| | | | |
|-------------------|----------------------|------------|-----------|
| AS Degree: | Area | Effective: | Inactive: |
| CSU GE: | Transfer Area | Effective: | Inactive: |

| | | | |
|---------------|----------------------|------------|-----------|
| IGETC: | Transfer Area | Effective: | Inactive: |
|---------------|----------------------|------------|-----------|

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|----------------------|--------------|------------|-------------|-----------|
| CSU Transfer: | Transferable | Effective: | Summer 1996 | Inactive: |
|----------------------|--------------|------------|-------------|-----------|

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|---------------------|--------------|------------|-------------|-----------|
| UC Transfer: | Transferable | Effective: | Spring 2000 | Inactive: |
|---------------------|--------------|------------|-------------|-----------|

CID:

Certificate/Major Applicable:

Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:

Students will:

1. Evaluate the rationale of the Java language.
2. Contrast Java and C++.
3. Design programs using object-oriented methods.
4. Create software using an integrated development environment.
5. Integrate the Java class library with the construction of new classes.
6. Test the efficiencies of multithreaded applications.
7. Construct graphical user interfaces.
8. Compare local I/O facilities with networking in Java.
9. Evaluate, compare and contrast four design patterns.

Topics and Scope:

1. Object-oriented programming principles
 - A. Encapsulation
 - B. Inheritance
 - C. Polymorphism
2. Comparison with C/C++
 - A. Global variables
 - B. Pointers
 - C. Memory allocation
 - D. Header files
 - E. Preprocessor
3. Java language constructs

- A. Types
- B. Operators
- C. Flow Control
- D. Classes
- E. Packages and interfaces
- 4. JDK class libraries
 - A. .lang
 - B. .io
 - C. .util
 - D. .net
 - E. .awt
 - F. .applet
- 5. Threads and synchronization
 - A. Thread priorities
 - B. Synchronization
 - C. Messaging
- 6. Networking
 - A. Sockets for clients
 - B. Sockets for servers
 - C. URL connections
- 7. GUI development
 - A. Components
 - B. Layout manager
 - C. Menu container
- 8. Applets
 - A. HTML interface
 - B. Parameters
 - C. Initialization
 - D. Graphics
- 9. Applications
 - A. Parameters
 - B. Initialization
 - C. I/O

Assignment:

Complete Sun Microsystem's HTML-based Java tutorial. Develop several applets and applications.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments are more appropriate for this course.

Writing
0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Exams

Problem solving
25 - 60%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

PROGRAMMING

Skill Demonstrations
20 - 50%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items

Exams
20 - 30%

Other: Includes any assessment tools that do not logically fit into the above categories.

None

Other Category
0 - 0%

Representative Textbooks and Materials:

"Java 1.1: The Complete Ref. 2nd Edition", by Naughton & Schildt
- Osborne/McGraw-Hill 1998