

University of Guam

Course Outline

Course Number: CS202

College: CNAS

Course Title: Object Oriented Programming Credit Hours: 3

Date of Final Approval: _____

Semester Offered: Fall 2005 & Spring 2006

Course Counts as:

General education requirement

Part of CS and CIS major program

Elective

1. Catalogue Description

This course examines object-oriented programming and design methods. Topics include data types, objects, classes, encapsulation, inheritance, polymorphism, and exception handling

2. Course Lecture Content

- ◆ Compiling Java and using an IDE
- ◆ Java data types and control statements
- ◆ Java exceptions, Java Doc, and operators
- ◆ Object Oriented Programming: encapsulation and UML
- ◆ Object Oriented Programming: Inheritance and interfaces
- ◆ Object Oriented Design and Analysis
- ◆ Dates, Arrays, Strings, and Vectors
- ◆ Exception Handling and Collection Classes
- ◆ Swing GUI
- ◆ Threads and Sorting
- ◆ Applets

3. Rationale for the Course

This is the equivalent of the CS2 module recommended by the ACM (Association of Computing Machinery) as part of a computer science degree curriculum.

4. Skills and Background Required or Expected

Prerequisites: CS201 and (MA161a or MA110).

5. Teaching Methodologies and Anticipated Class Size

Class size of 20 is dependent on number of computers in the assigned computer laboratory.

6. Additional Course Descriptions

None.

7. Learning Objectives

By the end of the semester the student should be able to:

- ◆ Ability to create basic data structures and algorithms,
- ◆ Work actively with bodies of code, which one did not create entirely on one's own.
- ◆ Apply Java classes to create event-driven, GUI programs
- ◆ Work with stream input/output.
- ◆ Apply Object-Oriented Design principles (encapsulation, inheritance, polymorphism) to develop software solutions.
- ◆ Leverage and Implement collection classes to create custom data types.
- ◆ Choose or design appropriate classes and write efficient programs to solve problems.
- ◆ Document programs as prescribed by industry standards.
- ◆ Apply programming concepts to mathematics, modeling, and broad range of subjects.

8. Methods of Evaluation

Method of evaluation will be multiple projects and exams. These components will be weighted as 60% projects and 40% exams.

9. Required and Recommended Texts

Thinking in Java (3rd Edition), by Bruce Eckel, Prentice Hall, ISBN: 0131002872

10. Required Subsequent Courses