COMPUTER PROGRAMMING II
CS 232

Catalog Description

PREREQUISITE: *CS 231 with a C or better.* Advanced problem solving. Efficiency and reuse. Abstract Data Types. Object-Oriented programming. Dynamic data structures: linked lists, queues, stacks. Recursive functions and procedures. Integral, scheduled laboratory.

Course Objectives

After successfully completing this course, you should find that you have:

- Enhanced your computer programming abilities, including UI elements
- Increased your appreciation of object-oriented principles
- Improved your understanding of memory management concepts
- Acquired a set of simple yet powerful data structures
- Gained the ability to create recursive solutions to problems
- Experienced challenging programming assignments
- Improved your interpersonal communications skills and teamwork

Course Materials

- Textbook
    - Title: Java Foundations: Introduction to Program Design and Data Structures
    - Author: John Lewis, Peter DePasquale, and Joe Chase
    - Publisher: Addison Wesley
    - Date: 2007

Detailed Course Outline

	Topic	Lecture Hours
I	**Problem Solving**	3
a	Review of the problem solving process	1.5

Topic		Lecture Hours
b	Introduction to software engineering	1.5
II	**Memory Management**	**6**
a	Parameter passing; deep versus shallow copying	1.5
b	Memory allocation/deallocation	1.5
c	Dynamic arrays	1.5
d	Basic linked structures	1.5
III	**Object-oriented Programming**	**4.5**
a	Classes and objects	1.5
b	Object-oriented design	1.5
c	Object libraries and APIs	1.5
IV	**Advanced Programming**	**9**
a	Graphical UI elements	3
b	Graphical UI programming	3
c	Exceptions and exception-handling	1.5
d	Generic data types	1.5
V	**Data Structures**	**6**
a	Vectors	1.5
b	Lists	1.5
c	Stacks	1.5
d	Queues	1.5
VI	**Recursion**	**4.5**
a	Recursive problem solving	3
b	Recursion with arrays and linked structures	1.5

Course Policy

Attendance Policy

Attendance is not mandatory, but it is to your advantage to be present for every class meeting. In order to perform well in this class, attendance needs to be a priority. If you are absent for a class, it is your responsibility to catch up on announcements or assignments that you miss.

Excused Absences

In order to be excused, an absence must be documented by an infirmary or prescription slip or a note on letterhead from a doctor or from the appropriate university authority. There will be no exceptions to this policy.

Grading Policy

Lab Assignments	15%
Projects	20%
Exam 1	20%
Exam 2	20%
Final Exam	25%

Lab Assignments

Lab assignments will be given regularly. These assignments are designed to reinforce the concepts covered during the lecture. Lab assignments must be completed by the specified deadline. Late assignments will not be accepted. If you must be absent when a lab assignment is due, it is your responsibility to provide proof of the excused absence along with the completed assignment upon your return at the next class meeting. Lab assignments that do not compile will be given an automatic grade of zero.

Projects

There will be a minimum of 4 projects during the course of the semester. These projects are designed to give the student an opportunity to put into use the principles of software design and computer programming. When each project is assigned, it will be accompanied by a set of milestones, or deadlines, for the various aspects of the project. These deadlines are non-negotiable. If you must be absent when a project is due, it is your responsibility to provide proof of excused absence along with the completed assignment upon your return at the next class meeting. Failure to meet a given deadline without an excused absence will result in the student receiving no credit for that project. As with lab assignments, projects that do not compile will be given an automatic grade of zero.

Make-up Exams

Only students who have excused absences (as defined above) during an exam period will be given make-up exams. It is the student's responsibility to contact the instructor to schedule a time for the make-up exam.

Cheating

The academic misconduct policy of the University will be followed in this course. The policies of academic honesty will be strictly enforced in this class. You are expected to do your own work. Copying another student's work will not be tolerated. The penalty for copying another student's work will be failure in the course. Students must adhere to the University Policy on Academic Honesty, as specified in the JSU Student Handbook.

Disruption

All students are expected to attend class fully prepared with appropriate materials and all electronic devices (cell phones, pagers, etc.) turned to the OFF position. Any student behavior deemed disruptive by the professor will result in expulsion of the student from the classroom and possible disciplinary action.

Other Course Policies

Any student who receives failing grades during the course is encouraged to discuss this with the instructor as soon as possible.

All requests for accommodations (disabilities, school events, etc.) are welcome.

Course Syllabus

The syllabus for this course can be downloaded **here** in PDF format.