Computer Programming II
CSCI 221
Spring 2013

Professor: Paul Anderson, Ph.D.
Office: 212 J.C. Long
Office Hours: M: 9 – 10 AM
W: 2 – 3 PM
F: 9 – 10 AM
And open door policy

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Office Hours (213 J.C. Long):
MW: 9 – 11 AM, 1 – 2:30 PM
TR: 3 – 4 PM
Optional Recitation (220 J.C. Long)
Thursday: 12:15 – 1:15 PM

Course Description: This course further develops object-oriented programming introduced in CSCI 220. Topics include file input/output, inheritance and polymorphism, exceptions, error handling, and algorithm analysis.


Course (learning) outcomes:

1. Decompose the software development process into its component parts (problem definition, requirements specification, design, implementation, testing, and maintenance) and apply them in problem solving and program development [4]

2. Learn Java syntax concerning constants and variables, assignment, I/O operations from standard input and output to different data types, file I/O operations for text files, arithmetic operations, relational operators, logical operators (including short-circuit), selection statements, repetition statements

3. Design solutions using type wrapper classes and their methods

4. Design simple data structures using arrays (including using loops with arrays, parallel arrays, multi-dimensional arrays, shallow versus deep comparison, common task such as finding max/min, summing, other aggregate operations) [5]

5. Explain naming, functional and data abstraction (including information hiding and encapsulation) in program development [2]

6. Explain object-oriented design as a mechanism for handling problem complexity as well as facilitating team programming and software reuse (introduce a subset of UML notation) [2]
7. Analyze classes and apply their components in program development (including instantiation of objects, system drivers, types of methods (get, set, predicate, toString, constructors, finalizer), static versus non–static methods/variables, access qualifiers (public, protected, private, <default>), garbage collection, use of the “this” reference) [4]


9. Decompose inheritance and polymorphism into their building elements (including class hierarchies, abstract classes and methods, and interfaces) and apply them in problem solving and program development [4]

10. Apply design principles (e.g., shallow hierarchies are better than deep ones, the substitution principle, use inheritance only for polymorphism)

11. Apply exceptions in program development (including defining exception classes, and 'throws' and 'try/catch' syntax) [3]

12. Decompose recursive algorithms (such as factorial, fibonacci, list length, and binary search) into their component parts and explain/trace them [4]

**Prerequisite:** CSCI 220 Computer Programming 1 and 220L Computer Programming I Lab. or AP Computer Science A (3, 4 or 5).

**Course Web Page:** [http://ds.cs.cofc.edu/index.php/Spring_2013_CSCI_221](http://ds.cs.cofc.edu/index.php/Spring_2013_CSCI_221)

**Facebook Group (required):** [https://www.facebook.com/groups/214030042067396/](https://www.facebook.com/groups/214030042067396/)

**Course Workspace:** [https://c9.io/w100pea/csci-221-spring-2013](https://c9.io/w100pea/csci-221-spring-2013)

**Grading Policy:**
1. Examinations 40%
2. Programming Assignments 40%
3. Comprehensive Final 20%

**Grading Scale:** A: 90-100; B: 80-89; C: 70-79; D: 65-69; F: <65. Plusses and minuses will be used at the discretion of the instructor.

**Assignment Policy:** A new assignment will appear every day. Programs that have been assigned on or before Wednesday of each week will be graded on Friday. Programming assignments must be submitted through LiveLab unless otherwise specified. Cheating/sharing code will result in a zero on the assignment and a report to the judicial board. Written homework will placed under my office door. Late assignments will be accepted with a maximum score of 85%.

**Exam Policy:** Student performance will be assessed through weekly examinations and a comprehensive final exam. Examinations will consist of 2 – 4 questions every Friday. We will immediately go through the solutions after the examination. I will drop the lowest examination score at the end of the semester. If you miss an examination, this will be counted as your drop grade.

**Cheating:** Students are expected to work independently in this course. Collaborations on specific assignment details are a violation of the honor code. Use of another student's answers is considered cheating, and cases of this nature will be taken to the Judicial Board.

**Attendance Policy:** Attendance at all lectures is required. Excused absences for illness, personal/family emergency or academic/professional commitments will be granted at the discretion of instructor.

**Disability Accommodation:** Any student who feels that he or she may need an accommodation due to a disability should speak to me individually to discuss your specific needs. For additional help please contact the College of Charleston Center for Disability services at [http://www.cofc.edu/~cds/](http://www.cofc.edu/~cds/).
**Electronics Devices:** The use of electronic devices, both stand-alone and network capable, will play an increasingly important roll in teaching and learning at the College of Charleston, including their use in our classrooms. The following policy specifies which electronic devices and network connections can be used and when their use is disallowed in this class.

Devices that are **allowed** to be used at certain times:

*During class, except during tests and exams:*
Allowed are mobile computing devices, e.g. laptops, palmtops, tablets, electronic pens, calculators. Mute the sound. The use of these devices is encouraged for accessing WebCT, taking notes and running simulations during class.

*During tests, exams and quizzes:*
No electronic devices are allowed to be powered up, unless otherwise specified by the instructor. All books and notes are to be stowed below desk level.

**Network Access:**
Students may use wired, WiFi and IR networks available during class, whenever electronic devices are allowed, provided the use of the network does not distract other students or the instructor.

Be considerate and sensitive to others. All student behaviors are subject to the policies in the College of Charleston Student Handbook.
Guide to CSCI 221

We are going to have a lot of programming assignments in this course, and therefore, it will imperative that you do not fall behind. Late working programs will still receive 85% of the points.

How many programs will we have? We are shooting for 100 programs in 100 days.

Why so many programs? The only way to learn how to program is to program. This is also why the programming assignments count for 40% of the course grade.

What development environment should I use? The course will be using the cloud9 IDE ([http://c9.io](http://c9.io)). You must create a private workspace for this class. We’ll be using cloud 9 during lectures, so you’ll get very familiar with the interface. Once you create your workspace, you can share it with the instructor or TA to get assistance, but you may NOT share it with other students (see the cheating policy).

How do we submit the assignments? We will submit the assignments using the LiveLab interface that is available through the book.

Java 9E LiveLab
Go to [www.cs.armstrong.edu/liang/intro9e](http://www.cs.armstrong.edu/liang/intro9e)
Choose LiveLab
Student signup code: texas123
Course ID: csci_221_spring_2013

How do I get additional help? The best way to get help is to come and see me or the TA. This is also the reason we are using cloud9. You will be able to share your workspace with us, so we can help you in the course.

What is the policy for late assignments? Late assignments will receive a maximum of 85% of the points.

What about partial credit on assignments? There will be very little partial credit on assignments (although this will vary depending on the assignments)

What about partial credit on the examinations? Partial credit will be awarded.

What about good style and documentation? Good programming style and documentation is expected throughout the course (even if not explicitly stated). Points will be deducted for poor style or documentation.

I want to use Eclipse (or some other IDE). That is fine, but we will only support cloud 9 technical problems.

Do I need to read the book from cover to cover? The answer to the question varies from student to student; however, you are expected to master all of the material covered in an assigned chapter.

Can I make-up an examination? No. We are dropping your lowest examination score. This is to avoid make-up examinations.

Have fun!!!