

# CSCE 146 – Algorithmic Design II Syllabus

## Spring 2008

### Syllabus

#### Instructor Information:

- **Name**: Semmy Purewal
- **E-mail**: [semmy@engr.sc.edu](mailto:semmy@engr.sc.edu)
- **Office**: Swearingen 2D19 (The Network Security Lab)
- **Office Hours**: TBA

#### Class Time:

- Tuesday and Thursday, 9:30- 10:45, 300 Main St., Rm B201
- Wednesday Lab, time depending on the section for which you registered

#### Texts and Required Materials:

- *Data Structures Outside In with Java* by Sesh Venugopal
- *Data Structures in Java: A Laboratory Course* by Sandra Anderson

**Course Prerequisites:** Grade of C or better in both CSCE 145 and MATH 141. Note that you will not be able to be successful in this course if you weren't successful in CSCE 145. This is due to the cumulative nature of the subject matter. The calculus prerequisite will not be relied on heavily, but I will expect a certain level of mathematical maturity. If you have questions about whether or not your background is sufficient to be successful in this class, please contact me as soon as possible.

**Course Description:** (Bulletin Description) Rigorous development of algorithms and computer programs; elementary data structures. Three lecture hours and two laboratory hours per week.

(My Description) In this class, we'll continue our exploration of computer science and algorithmic thinking through programming and Java. Topics will include a review of the Java Programming Language, File I/O, Algorithm Analysis, and fundamental Data Structures. Time permitting, we will discuss Applets and Java Game Programming.

**Course Homepage:** The official homepage for this course will be <http://www.cse.sc.edu/~semmy/csce146>. On this page, you'll find information and announcements about reading assignments, homework assignments, and programming projects.

**Grading:** In this course, 90% guarantees an A, 80% guarantees a B, 70% guarantees a C, and 65% guarantees a D. Below 65% is an F. Plus grades may be given out at my discretion. Your grade in this course will be computed as follows:

- Exam 1: 15%
- Exam 2: 15%
- Lab: 25%
- Programming Projects: 25%
- In class activities, quizzes, and participation: 5%
- Final Exam: 15%

**Exams:** The plan is to have two in-class exams during the semester and a final exam at the end of the semester. **I do not allow for make-up exams**, but if you have a **serious** illness or a **serious** emergency, we may be able to work something out as long as I hear from you **on or before** the day of the exam. I can often allow you to take the exam early if the need arises and I am given sufficient notice.

**Laboratory:** There will be approximately 13 lab assignments given this semester that are designed to be completed within your structured lab periods on Wednesday. Your laboratory instructor will explain lab policies in more detail.

**Programming Projects:** There will be 7 programming projects that will be assigned this semester that are assigned to be completed outside of class. These are **not** group assignments; they should be completed individually with assistance from your instructor or your TA. You may discuss ideas and implementation details in a general way with other students, but when you are coding you should be coding alone. Any violation of this is a violation of the University's academic honesty policy.

**Office Hours:** My official office hours are (coming soon). Additionally, I plan to be on campus for the majority of the day (including evenings) on Monday through Thursday, and will be happy to meet with you e-mail me and let me know about 24 hours in advance. If you haven't scheduled a meeting and would like to see me, drop by my office and knock on the door. If I am there, I'll answer and try to give you as much time as I can. If I am really busy, we can try to schedule a time to meet later.

Please note that office hours are not to be used as a substitute for class. If you miss class, I cannot re-teach the material to you during office hours, but I can certainly answer questions.

**Attendance and Lecture Policies:** You are expected to attend every class, although I will not take attendance. I would like everyone to participate in this process as much as possible, so I may call people to the board or have everyone participate in an activity in class. Although you may not receive a grade on these, your participation will be noted, and will affect your grade at the end of the semester.

I like to maintain an open atmosphere in class, and so it is not always necessary to raise your hand as long as you maintain an acceptable level of courtesy. I also don't mind if you have to get up to leave briefly to use the restroom or get a drink of water. However, if you know that you will have to leave class early please let me know ahead of time and also try to sit somewhere so that your departure will not be distracting to other students (for example, near the door).

**Luddite Statement:** If you plan to use an electronic device in class (e.g. laptop, palm-top, etc), it must be cleared with me in advance. If you think that an electronic device will enhance your learning experience in some way, write me an e-mail or drop by my office and explain how it will do so. If I agree with you, I'll allow you to use it.

Also, please try to remember to put your cell phone on silent or vibrate before coming to class! I'll offer you the same courtesy.

**Teaching Evaluations:** At the end of the semester, you will be asked to evaluate my teaching using the standard anonymous student evaluations. Throughout the semester, I may ask for some intermediate anonymous feedback on how the class is progressing. I take these evaluations very seriously, and hope that you will as well.

**Academic Honesty:** In this class, all academic work must be your own. Roughly speaking, this means that if you turn something in, you should be able to explain it, describe it, and recreate it without any assistance. Therefore copying solutions to programming assignments from another student or any other source (including the Internet) is forbidden!

I take academic honesty very seriously. If you are caught turning in academic work that is not your own, the minimum penalty is an F in the course and a notation on your transcript.

**Disclaimer:** This course syllabus represents a general plan for the course; deviations announced to the class by the instructor may be necessary.

**Tentative Schedule:**

Week Of	Topics, etc	Reading	Lab	Due Dates
Jan 14	Jan 15: Introduction, Java Syntax Overview, Strings, Output (Review) Jan 17: Input via Scanner, Arrays (Review), Introduce Project 0 Jan 18: Last day to drop without a "W" being recorded	TBA	Lab 0	
Jan 21	Jan 21: MLK day -- no classes! Jan 22: Classes, Methods, References, Parameter Passing (Review) Jan 24: File I/O using Scanner, Exception Handling, ArrayList, Introduce Project 1	CHP 1	Lab 1	PRJ 0
Jan 28	Jan 29: Inheritance, Abstract Classes, Interfaces Jan 31: Type Compatibility and Polymorphism, Introduce Project 2	CHP 1	Lab 2	
Feb 4	Feb 5: Introduction to Algorithm Analysis Feb 7: Analysis of Algorithms, Big Oh notation	CHP 2/3	Lab 3	PRJ 1
Feb 11	Feb 12: Generics and Lists, Linked Lists Feb 14: Exam 1	CHP 4	Lab 4	
Feb 18	Feb 19: More Linked Lists, Searching Unordered Lists Feb 21: Ordered Lists and OrderedList Implementations, Introduce Project 3	CHP 4/5	Lab 5	PRJ 2
Feb 25	Feb 25: Last day to drop without a "WF" being recorded Feb 26: Stacks, Linked List Implementation Feb 28: More about Stacks, Array Implementation	CHP 7	Lab 6	
Mar 3	Mar 3: Midpoint in semester Mar 4: Queues, Linked List Implementation, Introduce Array Implementation Mar 6: More about the Array Implementation of a Queue, Introduce Project 4	CHP 6	Lab 7	PRJ 3
Mar 10	Mar 9- 16: Spring Break -- no classes!			
Mar 17	Mar 18: Recursion Mar 20: More recursion	CHP 8	Lab 7	
Mar 24	Mar 25: Still more recursion, Introduce Project 5 Mar 27: Binary Trees	CHP 8/9	Lab 9	PRJ 4
Mar 31	Apr 1: More with Binary Trees Apr 3: Huffman Coding (?)	CHP 9	Lab 10	
Apr 7	Apr 8: Tree Traversals Apr 10: Exam 2	CHP 9	Lab 11	PRJ 5
Apr 14	Apr 15: Applets and Graphics, Introduce Project 6 Apr 16: Game Programming in Java	TBA	Lab 12	
Apr 21	Apr 22: More about Game Programming Apr 24: Review/Catch Up	TBA	Lab 13	PRJ 6
Apr 28	Apr 28: Last day of classes Apr 29: Reading day Apr 30: Final Exam (2:00 PM)	None	None	