CSE205 Object Oriented Programming and Data Structures
Syllabus – Fall 2013

Class Time: Mon, Wed, Fri. 9:00am ~ 9:50am
Classroom: Tempe WGHL 101

Instructor

Dr. Xuerong (Sherry) Feng
Office: Brickyard 512 (5th floor)
Tel: (480)965-2855
Email: xuerong.feng@asu.edu
URL: http://www.public.asu.edu/~xfeng13

Office Hour (temporarily only, location might change before class starts)

Mon. Wed. Fri.: 10:00am ~ 11:00am (at Coor 150 Pod A or B)
Wed. Fri.: 12:30pm ~ 1:30pm (at Brickyard #512)

I will be very glad to schedule another time with you if above time slots are not convenient for you, just talk with or email me to set up a time.

TA

(TBA)

Textbook

- No need to purchase the textbook, a copy of above e-Textbook will be provided for all students through Blackboard.
- Extra lecture handouts, sample codes will also be provided through Blackboard.
- In case you want to buy a copy of above book, below please find the relevant information:

**Catalog Description**

Problem solving by programming with an object-oriented programming language. Introduction to data structures. Overview of computer science topics.

**Prerequisites**

CSE 110 (Java I). If you are not sure if this course is the right level for you, contact me to take a placement exam.

Also if you feel that you already know the materials of this course, you can test out the course by taking a comprehensive exam. For more information, please contact the instructor.

**Course Objectives and Outcomes**

1. To introduce issues related to software development
   1.1. A student can define the terms of software engineering (software life cycle, software improvement models)
   1.2. A student can use object-oriented design techniques to identify classes and objects and define the relationships among objects.
   1.3. A student can understand simple UML (Unified Modeling Language) diagrams to represent OO designs and convert a design in UML to the equivalent code.

2. To introduce concepts of data structure organization
   2.1. A student can write code using basic data structures such as ArrayLists/Vectors.
   2.2. A student can implement basic data structures such as linked lists, queues, stacks and binary trees.
   2.3. A student can determine the appropriate basic data structures to use in a program.
   2.4. A student can use encapsulation to provide abstract container classes
   2.5. A student can write a program using sequential and text files as input and output for programs

3. To introduce Object Oriented language constructs
   3.1. A student can design and implement a simple GUI (graphical user interfaces)
   3.2. A student can write a program using inheritance, interfaces, and polymorphism.
   3.3. A student can use exception handling correctly in a program.

4. To introduce the issues of Algorithms
   4.1. A student can describe the efficiency of simple algorithms (merge sort, quick sort, linear search, binary search).
   4.2. A student can apply standard algorithms for searching and sorting, searching when designing programs.
   4.3. A student can design recursive algorithms and use recursive structures when designing programs.
5. To introduce social and ethical issues of computer science
   5.1. A student can research and discuss ethical and social issues of the computing world

Major Topics Covered in this Java-based Course

1. Object-Oriented Software Development
   - Brief introduction to Java
   - Classes, Interfaces, Abstract classes
   - Polymorphism
   - Introduction to GUI

2. Introduction to Data Structures
   - Arraylist
   - Linked lists
   - Stacks
   - Queues
   - Introduction to binary trees

3. Algorithms
   - Recursion
   - Searching/sorting
   - Big O notation

4. Exceptions and Input/Output streams
   - Exception handling
   - File read/write
   - Serialization

Course Web Site

All course documents, i.e. lecture slides, in-class source codes, test solutions, etc., are available on Blackboard at [https://myasucourses.asu.edu/](https://myasucourses.asu.edu/). All students who are registered in CSE205 course should be able to access the course material through this site. If you experience any difficulty, please let me know as soon as possible. *It is your responsibility to check the latest announcement and print your assignments from the Blackboard as soon as it is posted.* Try to get started early on your assignments so you can get help if you need it.

**Note:** Announcements in the class take precedence over printed material.

Assignment Submission Web Site

You will need to submit all your assignments through the following website. You can also check your grades and see TA’s comments from it. To get started, from the left side control panel, pick “Register”.

Note: please bookmark the following submission website, in case Blackboard is down, you should check this website for detailed project’s description.

[https://courses.eas.asu.edu/cse205/](https://courses.eas.asu.edu/cse205/)
Grading & Exam Dates

- Your grade will be based on the following schema.

<table>
<thead>
<tr>
<th>Item</th>
<th># of Items</th>
<th>Point Value</th>
<th>Percentage towards your Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams</td>
<td>4</td>
<td>100</td>
<td>60%</td>
</tr>
<tr>
<td>Assignments</td>
<td>12</td>
<td>20</td>
<td>40%</td>
</tr>
<tr>
<td>Quizzes/Attendance</td>
<td>14 ~ 16</td>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>105%</td>
</tr>
</tbody>
</table>

- Grading breakdown (+/- System)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>98</td>
</tr>
<tr>
<td>A</td>
<td>90</td>
</tr>
<tr>
<td>B+</td>
<td>88</td>
</tr>
<tr>
<td>B</td>
<td>80</td>
</tr>
<tr>
<td>C+</td>
<td>78</td>
</tr>
<tr>
<td>C</td>
<td>70</td>
</tr>
<tr>
<td>D</td>
<td>60</td>
</tr>
<tr>
<td>E</td>
<td>Below 60</td>
</tr>
</tbody>
</table>

- You can always calculate your own standing by using the following formula:

\[
60 \times \frac{\text{Exam Total} - \text{Lowest Exam}}{300} + 40 \times \frac{\text{Assignment Total} - \text{Lowest Assignment}}{220} + 5 \times \frac{\text{Quiz Total}}{160}
\]

- Exam Dates (*Please mark your calendar)

  Exam #1 – Wednesday, Sep. 25, 2013
  Exam #2 – Wednesday, Oct. 30, 2013
  Exam #3 – Wednesday, Nov. 27, 2013
  Final Exam – Wednesday, Dec. 11, 2013, 7:30am – 9:20am

Midterms, Final, Quizzes and Assignments Policies

- **Exams:** There will be four exams. The lowest scored exam will be dropped. *There will be absolutely no make-up for these exams. If you happen to miss one exam, that will be the one to be dropped.* A missed exam without permission is a zero. Your picture ID needs to be shown during the exams.

- **Quizzes/Attendance:** Every week from time to time, just to enhance what you learned, I will distribute in-class quizzes and these quizzes will be collected and graded. In total they are worth EXTRA 5% towards your final grade. Note: these quizzes will NOT be announced in
advance and will be used to check your attendance. Attendance is important in this course, it allows you to be aware of what are going on in class, often during the class time, announcements will be made or information will be discussed that is not available on the web site.

- **Assignments:** This class is meant to be a programming-intensive class. This is accomplished through the programming assignments that are assigned every week or two. These are not small projects that can be started the night before they are due. You will need to spend some time designing your project before you even begin to do any coding. Part of your program’s grade will be calculated automatically by our submission server. This requires that your program output information in a very specific way and that it also handles invalid input gracefully. Your program is expected to pass the submission site tests or you will lose those points. During the first week of class, we will cover some methods and tools for ensuring that your program is working properly. All assignments must be submitted through the submission server. We will NOT accept any submission through emails, and no late assignment will be accepted and ALL submitted files are expected to have a standard header at the top with your information:

```plaintext
// Assignment #:  
// Name:  
// StudentID:  
// Lecture: 3 (M.W. F 9:00 - 9:50am)  
// Description: (Description of each file/class)
```

- **Grading schema for assignments:**

<table>
<thead>
<tr>
<th>Item</th>
<th># of Items</th>
<th>Point Value</th>
<th>Total Point Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compilation</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>Program compiles</td>
</tr>
<tr>
<td>Test Cases</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td>Automated test cases</td>
</tr>
<tr>
<td>Documentation</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>Program is well-documented</td>
</tr>
<tr>
<td>Indentation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Indentation makes program easy to read</td>
</tr>
<tr>
<td>Space</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Spacing makes program easy to read</td>
</tr>
<tr>
<td>Classes and methods</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>Required classes and methods</td>
</tr>
</tbody>
</table>

**Above total:** 20

- **Grading Appeals:** Any questions, corrections, or appeals on grades of programs or tests must be done in writing within one week after it has returned to the class. State the problem and the rationale for any change in your grade in your appeal. For tests, bring the letter and
test paper to the instructor. For assignments, contact the TA who graded it. Later in the semester I will not look at assignments/exams returned earlier in the semester.

Getting Help

You can get help from the following three sources:

**Instructor:** Visit me during my office hour or schedule another time with me if the office hour is not convenient for you.

**TAs:** You can get help from TAs during their office hours in each week, TA will be put in several labs and their schedule will be available later on the course web page.

**Peer Students:** Students are encouraged to help each others, feel free to discuss problem sets and exchange ideas on how to solve them. However there is a thin line between collaboration and plagiarism. All assignments in this course must be individual work, i.e. you are required to compose your own unique solution to each problem and each project. You cannot use any code written by any of your classmates. Unless otherwise instructed, some obvious acts of cheating are:

- Turning in work/code done by someone else.
- Copying work/code done by someone else.
- Writing one code together with someone else (must be individual work).

For each assignment, we will use powerful plagiarism detection software to compare and check all four sections student submission, if we find any cheating, we have no problem failing you in this class for the semester and having the appropriate entries placed in your ASU student records. All instances of cheating will be handled by the Dean's office according to the ASU Student Academic Integrity Policy and the **USI 104-01: Student Code of Conduct and Student Disciplinary Procedures.**

**Important Days**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 28, 2013</td>
<td>Drop/Add deadline</td>
</tr>
<tr>
<td>Sep. 02, 2013</td>
<td>Labor day holiday</td>
</tr>
<tr>
<td>Sep. 04, 2013</td>
<td>Tuition &amp; Fees 100% refund deadline</td>
</tr>
<tr>
<td>Oct. 12 ~ Oct. 15</td>
<td>Fall Break</td>
</tr>
<tr>
<td>Nov. 06, 2013</td>
<td>Course Withdrawal deadline – Online &amp; In Person</td>
</tr>
<tr>
<td>Nov. 11, 2013</td>
<td>Veteran’s day holiday</td>
</tr>
<tr>
<td>Nov. 28 ~ Nov. 29</td>
<td>Thanksgiving holiday</td>
</tr>
<tr>
<td>Dec. 11, 2013</td>
<td>(Wednesday) Final Exam held in our classroom at 7:30am ~ 9:20am</td>
</tr>
</tbody>
</table>
Miscellaneous

- **Withdraw**: if you wish to withdraw from the class, submitting a completed withdraw form to the registrar office is the only guaranteed way to officially withdrawing from the class. Logon to the following website to see detailed withdraw policies.
  http://www.asu.edu/aad/manuals/usui/usui201-08.html

- **Incomplete grade**: I will NOT give “Incomplete” grade for this course. Please check the university policy on this at http://www.asu.edu/aad/manuals/usui/usui203-09.html. Please do not come to me during or at the end of the semester and ask for an "I" grade simply because you have fallen behind.

- **Academic Integrity**: See pp. 6 for collaboration policies. Cheating, plagiarism will not be tolerated and will result in "E" grade in the course. For more information on university academic integrity policy, please refer to the following website:
  http://www.asu.edu/studentaffairs/studentlife/judicial/academic_integrity.htm

- No action on the part of a student, which is detrimental to the learning process of the class, will be tolerated. All university and college policies concerning withdrawal deadlines, incomplete, audits, and other procedures are in effect for this course.

- **DRC Service**: Students requesting classroom accommodations or modifications because of a documented disability must contact the Disability Resource Center. The phone number is (480)965-4732. For additional information concerning the services provided by the center, please visit their web site at http://www.asu.edu/studentaffairs/ed/drc/