**CSE 1325:** Object-Oriented Programming

FALL 2015

**Instructor:** Chance Eary

**Office Number:** Engineering Research Building, Room 322

**Email Address** chance.eary@mavs.uta.edu

**Office Hours:** Tuesday / Thursday, 11:30am to 12:30pm**, o**r by appointment

**Section Information:** CSE 1325-002

**Time and Place of Class Meetings:** CRB 114, Tuesday / Thursday, 12:30pm to 1:50pm

**Description of Course Content:** Program design and implementation using Java. Object-oriented concepts, collection classes, generics, reflection, reusability, and introduction to design patterns. Projects involve extensive programming and may include user interfaces and multithreading.

**Student Learning Outcomes:**

* Introduction to the Java programming Language
* Object Oriented Programming Topics
* Introduction to programming techniques including variables, functions, strings, data structures, controls, and an overview of object oriented programming.

**Prerequisite:** CSE 1320: Intermediate Programming passed with a C or better.

**Required Textbooks and Other Course Materials:**

There is no required physical textbook for Fall 2015 CSE 1325-002. The primary course textbook is available as a PDF download or can be purchased used if desired. Other books and online materials may be used for reference as listed below and described during the class. We will also be using the NetBeans IDE and you may want to use some of the online Java Tutorials that are available. There is a wealth of accessible material for Java online. Look for things that are the easiest for you to use.

**The primary materials needed for the course are**:

Java How to Program 9/e, Deitel and Deitel. This is the next to latest version of the Deitel Java textbook series. This version became available as a PDF when the newest version was released. The 9th edition (9/e) will be used during class but is not required as a printed text. You may download a PDF version at

<http://ebook-dl.com/item/java_how_to_program_9th_edition_paul_deitel_harvey_deitel/> or at other places on the web. There are also other resources on line including the entire set of textbook examples and additional chapters for reference.

Java SE Technical Documentation. <http://docs.oracle.com/javase/index.html> . Technical specs, API docs, tutorials and more. This material is all online and will be referenced throughout the semester.

**The following books and/or materials may be referenced during the semester**:

The Art and Science of Java, Preliminary Draft, Eric S. Roberts, 2006. Available at <http://people.reed.edu/~jerry/121/materials/artsciencejava.pdf> and other sites. Supplemental material is available at <http://www-cs-faculty.stanford.edu/~eroberts/books/ArtAndScienceOfJava/>

Karel the Robot Learns Java, Eric S. Roberts, 2005. Available at <http://www.stanford.edu/class/cs106a/handouts/karel-the-robot-learns-java.pdf> .

Think Java, How to Think Like a Computer Scientist, Allen B. Downey, 5.1.2 . Available at <http://www.greenteapress.com/thinkapjava/thinkapjava.pdf> . You can also buy a printed copy at www.lulu.com for less than $25 if you prefer that.

Thinking in Java, 3rd Edition, Revision 4.0, Bruce Eckel. Available at <http://www.mindviewinc.com/Books/downloads.html>

Other available online textbooks for reference:

Blue Pelican Java, Charles E. Cook. Available from <http://www.bluepelicanjava.com/> . Also has free Java videos and other material.

Introduction to Programming Using Java, Sixth Edition, Version 6.0.1 July 2012, David J. Eck. Online textbook at <http://math.hws.edu/javanotes/> . You can download a PDF also.

**Attendance:** Attendance is not mandatory. All students are responsible for all course material, whether they choose to attend or not. Important demonstrations and discussions will be presented in class, as well as pop quizzes presented randomly.

**Grading**:

Tentatively, the final grade will be determined according to the following percentages:

Labs 46% {4 labs at 6, 14, 14, and 12 percent} See details below - last assignments will be due Final Review and/or Finals Week;

No fewer than three (3) in-class pop quizzes 9% (3 at 3 percent each); additional pop quizzes may be given at the instructor’s discretion;

Midterm 20%;

Final Exam 25%

The first lab assignment will be offered early in the semester and is designed to help students practice with the basics of Java programming (Method calls, input/output, class definition, IDE, etc.). Remember, all lab assignments are **individual effort only**.

**Pop Quizzes**

No fewer than three (3) in-class pop quizzes will be given at random during the semester. **There are no makeup quizzes**.

**Lab Assignments**: No late lab assignments will be accepted. Lab assignments must run under NetBeans IDE. The only way to learn programming is to write programs and make them work. The process is to write a chunk of code, test the chunk of code, find the errors, debug the errors, test the code some more, find errors, debug, test, get it working then add another chunk of code and do the same process again. At the beginning of this course you will write programs that need to be developed in pieces. You already have some experience with this from your previous classes. The programs in this class are larger than those in previous classes. This helps you practice with the process of breaking large problems into reasonable sized chunks and turning your thoughts and algorithms into well-structured maintainable programs. As the semester progresses, you will be expected to write larger and larger programs. These will reuse ideas you learned earlier and will let you practice the process of writing testing and debugging.

Every lab assignment has a given due date. No late labs will be accepted. (Five minutes late is still late.) Lab assignments will be posted on Blackboard.

Lab assignments must be individual effort. The Statement on Ethics, Professionalism, and Conduct of Engineering Students on Blackboard details the definitions of collusion, plagiarism, and academic dishonesty as related to lab assignments in CSE.

All required labs must be submitted in order to have the possibility of making a grade of A. At least eighty-five percent (85%) of the required labs must be submitted in order for a student to pass CSE 1325 with a C or better. At least seventy-five percent (75%) of the submitted labs must receive passing grades (with no significant errors) in order to pass CSE 1325 with a C or better and at least two of these labs with a passing grade must be from the final three lab assignments.

All of the required lab assignments will be written in Java.

Each lab will be graded on a number of factors. **Always be sure that any Java lab you submit will compile and run on the NetBeans IDE without errors even if it is not complete. You will receive partial credit for a working stubbed program. It is your responsibility to completely test your lab assignment PRIOR to submission.**

Programs that do not compile successfully (without compiler errors) will receive **zero (0) credit**.

Programs that do not execute successfully (without inappropriate termination) will receive **zero (0) credit.**

This means that ALL choices the user can make when running your code must work properly and ALL inputs (excluding ones the lab instructions say you don't have the deal with) must work properly even if the input value is invalid; for example, a negative value for a month must NOT make your program crash.

Labs that implement some, but not all, of the requirements must compile and run successfully without errors to receive partial credit. Examples of errors are:

Compilation errors - these occur when the program is being compiled and prevent creation of an executable.

Execution errors - these occur once the program has started running and cause the program to terminate in any way other than that defined by the programmer (ex: segmentation fault, divide by zero error, incompatible types, etc.)

**See the lab assignments and Blackboard for complete instructions on how to compile and submit lab assignments.**

Additional procedural information on lab assignments may be handed out or made available on Blackboard as required.

**Make-up Exams**:

* If a student sits any exam, this means the student accepts the responsibility for that exam. Once taken, the exam will not be given again, and no make-up will be scheduled.
* If a student cannot make the midterm exam, and the student brings adequate documentation of why they did not attend, (such as a doctor’s note), then the Final Exam score will be substituted for the midterm.
* If a student informs the instructor they cannot make the Final Exam before it is given, then a make-up exam will be scheduled. If they miss the Final Exam, and the student brings adequate documentation of why they did not attend, (such as a doctor’s note), a grade of Incomplete will be given and a make-up exam will be scheduled. If neither action is taken, the Final Exam will be a zero.

***A dental appointment or other non-emergency health situation is not an acceptable excuse for missing an examination you know about months in advance.***

**Grade Grievances**

If a student believes an error has been made in the grading of an assignment, the student has ***one week after an assignment is returned*** to resubmit an assignment for re-grading if they believe there is an error. *Papers will not be re-graded in the classroom!*

**Late Policy**

No late policy exists this semester. Assignments are due at the time they are due. Assignments will not be accepted after the due date.

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/aao/fao/>).

**Americans with Disabilities Act:** The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Title IX:** The University of Texas at Arlington is committed to upholding U.S. Federal Law “Title IX” such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).

**Academic Integrity:** Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University.

**Any student found guilty of academic dishonesty will receive a -100% (negative one hundred) for that work (project, exam, homework, etc.) as well as having the course grade lowered one full letter grade - in addition to any other penalties assessed (suspension, expulsion, probation).**

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the exits, which are located on the east, west, and south sides of the building. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

**Student Support Services**:UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

**Writing Center.** **:** The Writing Center, 411 Central Library, offers individual 40 minute sessions to review assignments, *Quick Hits* (5-10 minute quick answers to questions), and workshops on grammar and specific writing projects. Visit [https://uta.mywconline.com/](https://owa.uta.edu/owa/luket@exchange.uta.edu/redir.aspx?C=jqplelmmw0KcvkWv1pRv_rHS8ofUUtFIXl_CWZTLffEmCPyZf3x4ncUbBmD9p3gSPROCbhSJj7U.&URL=https%3a%2f%2futa.mywconline.com%2f) to register and make appointments. For hours, information about the writing workshops we offer, scheduling a classroom visit, and descriptions of the services we offer undergraduates, graduate students, and faculty members, please visit our website at [www.uta.edu/owl/](http://www.uta.edu/owl/).

**Course Schedule –** *The course schedule is tentative, and likely to change.*

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| **Date** | **Day** | **Book Item** |
| 27-Aug | Thursday | Syllabus, Lecture 01-OOP-JAVA-IDE, Lab 1 Assigned |
| 1-Sep | Tuesday | I/O; Net Beans; Classes, Objects, Methods |
| 3-Sep | Thursday | Lab 1 Due |
| 8-Sep | Tuesday | Control Statements, Assignments, and Logical Operators |
| 10-Sep | Thursday | Methods, Parameters, Utilities, Lab 2 Assigned |
| 15-Sep | Tuesday | Files and Exception Handling |
| 17-Sep | Thursday | Arrays, Arraylists, and Generics |
| 22-Sep | Tuesday | Scope and Access |
| 24-Sep | Thursday | Inheritance; Class Diagram with Inheritance |
| 29-Sep | Tuesday | Lab 2 Due |
| 1-Oct | Thursday | Lab 3 Assigned |
| 6-Oct | Tuesday | Polymorphism |
| 8-Oct | Thursday | Exception Handling with Inheritance |
| 13-Oct | Tuesday | Recursion, Searching, and Sorting; Sequence Diagram |
| 15-Oct | Thursday | Midterm Review |
| 20-Oct | Tuesday | Midterm Exam |
| 22-Oct | Thursday | Threads and Events |
| 27-Oct | Tuesday | Return Exam |
| 29-Oct | Thursday | Lab 3 Due; Beginning GUI |
| 3-Nov | Tuesday | Dialogs and Action Listener |
| 5-Nov | Thursday | Item Listeners |
| 10-Nov | Tuesday | Intermediate Graphics |
| 12-Nov | Thursday | Lab 4 Assigned |
| 17-Nov | Tuesday | 2D Graphics |
| 19-Nov | Thursday | TBD |
| 24-Nov | Tuesday | TBD |
| 26-Nov | Thursday | Thanksgiving |
| 1-Dec | Tuesday | Software Design Patterns |
| 3-Dec | Thursday | Review |
| 8-Dec | Tuesday | Lab 4 Due; Review |
| 17-Dec | Thursday | Final Exam |

**Emergency Phone Numbers**: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911.